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DOCUMENTS

OF THE

ASSEMBLY

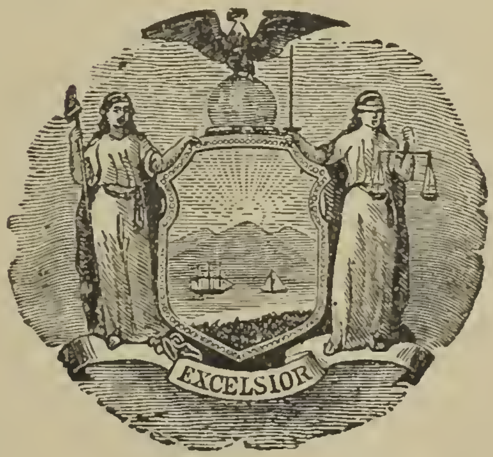
OF THE

STATE OF NEW YORK,

ONE HUNDRED AND SIXTEENTH SESSION.

1893.

VOLUME XII — NOS. 65 TO 68 INCLUSIVE.



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TENTH REPORT

OF THE

NEW YORK
CIVIL SERVICE COMMISSION.

COMMISSIONERS:

WILLIAM A. POSTE succeeded November 22, 1892, by E. PRENTISS BAILEY.
JOHN A. SLEICHER succeeded November 22, 1892, by WILLARD D. MCKINSTRY.
ALEXANDER C. EUSTACE succeeded February 16, 1893, by DEFOREST VAN VLEET.

TRANSMITTED TO THE LEGISLATURE, MARCH 13, 1893.

ALBANY:
JAMES B. LYON, STATE PRINTER.
1893.

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STATE OF NEW YORK.

No. 65.

IN ASSEMBLY,

MARCH 13, 1893.

TENTH REPORT

OF THE

NEW YORK CIVIL SERVICE COMMISSION.

STATE OF NEW YORK:

EXECUTIVE CHAMBER,
ALBANY, *March* 13, 1893.

To the Legislature:

I have the honor to transmit herewith the Tenth Annual Report of the New York State Civil Service Commission, the same being for the year 1892.

ROSWELL P. FLOWER.

REPORT.

Office of the New York Civil Service Commission,
Albany, N. Y., *February* 27, 1893.

To the Governor:

We, the undersigned New York Civil Service Commissioners, organizing this day under your appointment and receiving from the secretary a compilation of the proceedings of our predecessors, have the honor to transmit the same and accompanying documents as the annual report of the proceedings of the New York Civil Service Commission for the year 1892.

Respectfully.

E. PRENTISS BAILEY,
WILLARD D. McKINSTRY,
DeFOREST VAN VLEET,
Commissioners.

Office of the New York Civil Service Commission,
Albany, N. Y., *February* 27, 1893.

To the Hon. E. Prentiss Bailey, Willard D. McKinstry and DeForest Van Vleet, *New York Civil Service Commissioners:*

Gentlemen. — Your predecessors, viz., Alexander C. Eustace, John A Sleicher and William A. Poste, having vacated their office before preparing their report for the past year, I have compiled, as their secretary, the accompanying transcript of their proceedings, which I have the honor to submit as the annual report of the New York Civil Service Commission for the year 1892.

Respectfully.

CLARENCE B. ANGLE,
Secretary.

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APPENDIX A.

Civil Service Statutes, Rules, Regulations, Etc.

APPENDIX A.

Civil Service Statutes, Rules, Regulations, Etc.

STATUTES.

Laws of 1883, chap. 354.—An act to regulate and improve the Civil Service of the State of New York.

Commission created; commissioners, appointment of, etc.—SECTION 1. The Governor is authorized to appoint, by and with the advice and consent of the Senate, three persons, not more than two of whom shall be adherents of the same party, as Civil service commissioners, and said three commissioners shall constitute the New York Civil Service Commission. They shall hold no other official place under the State of New York. The Governor may remove any commissioner; and any vacancy in the position of commissioner shall be so filled by the Governor, by and with the advice and consent of the Senate, as to conform to said conditions for the first selection of commissioners. The three commissioners shall each receive a salary of $2,000 a year. And each of said commissioners shall be paid his necessary traveling expenses incurred in the discharge of his duty as a commissioner.

Rogers v. Common Council of Buffalo et al., 2 N. Y. Supplement, 326; 123 N. Y., 173.

Duties of commission; rules, what to provide for.—§ 2. It shall be the duty of said commission:

First. To aid the Governor, as he may request, in preparing suitable rules for carrying this act into effect; and when said rules shall have been promulgated, it shall be the duty of all officers of the State of New York, in the departments and offices to which any such rules may relate, to aid, in all proper ways, in carrying said rules, and any modification thereof, into effect.

People ex rel. Killeen v. Angle et al., 47 Hun, 183; 109 N. Y., 564.

Second. And, among other things, said rules shall provide and declare, as nearly as the conditions of good administration will warrant, as follows:

1. For open competitive examinations for testing the fitness of applicants for the public service now classified or to be classified hereunder. Such examinations shall be practical in their character and so far as may be, shall relate to those matters which will fairly test the relative capacity and fitness of the persons examined to discharge the duties of that service into which they seek to be appointed.

2. All the offices, places and employments so arranged or to be arranged in classes shall be filled by selections from among those graded highest as the results of such competitive examinations.

3. There shall be a period of probation before any absolute appointment or employment aforesaid.

4. Promotions from the lower grades to the higher shall be on the basis of merit and competition.

5. No person in the public service is for that reason under any obligation to contribute to any political fund, or to render any political service, and no person shall be removed or otherwise prejudiced for refusing to do so.

6. No person in said service has any right to use his official authority or influence to coerce the political action of any person or body.

7. There shall be noncompetitive examinations when competition may not be found practical.

8. Notice shall be given in writing by the appointing power to said commission of the person selected for appointment or employment from among those who have been examined, of the place of residence of such persons, of the rejection of any such persons after probation, of transfers, resignations and removals, and of the date thereof, and a record of the same shall be kept by said commission. And any necessary exceptions from said eight fundamental provisions of the rules shall be set forth in connection with such rules, and the reasons therefor shall be stated in the annual reports of the commission.

Third. Said commission shall, subject to the rules that may be made by the Governor, make regulations for, and have control of such examinations, and, through its members or the examiners, it shall supervise and preserve the records of the same; and said commission shall keep minutes of its own proceedings.

Fourth. Said commission may make investigations concerning the facts, and may report upon all matters touching the enforcement and effect of said rules and regulations, and concerning the action of any examiner or board of examiners hereinafter provided for, and its own subordinates, and those in the public service, in respect to the execution of this act; and, in the course of such investigations, each commissioner and their secretary shall have power to administer oaths.

Fifth. Said commission shall make an annual report to the Governor, for transmission to the Legislature, showing its own action, the rules and regulations and the exceptions thereto in force, the practical effects thereof and any suggestions it may approve for the more effectual accomplishment of the purposes of this act.

People ex rel. Ryan v. Civil Service Boards of New York, 17 Abb. N. C., 64; 41 Hun. 287.

Chief examiner, secretary, messenger, etc.; duties and salaries of; boards of examiners, etc.; public buildings, use of.— § 3. Said commission is authorized to employ a chief examiner, a part of whose duty it shall be, under its direction, to act with the examining boards so far as practicable, whether at Albany or elsewhere, and to secure accuracy, uniformity and justice in all their proceedings, which shall be at all times open to him. The chief examiner shall be entitled to receive a salary at the rate of $3,600 a year, and he shall be paid his necessary traveling expenses incurred in the discharge of his duty. The commission is authorized to employ a secretary, who may be one of its own number, who shall receive a compensation of $1,000 per annum, and who shall also be paid his necessary traveling expenses incurred in the discharge of his duty, and also a person to act as stenographer and copyist, who shall be entitled to receive a compensation of $1,000 a year, or in its discretion, may from time to time employ stenographers and copyists at an expense not to exceed in the aggregate the sum of $1,000 a year. The commission may appoint a messenger, to act also as clerk, at a salary not exceeding $900 a year, and may dismiss him at pleasure. The commission may, at Albany, and in any other part of the State where examinations are to take place, designate and select a suitable number of persons in the official service of the State of New York, after consulting the head of the department or office in which such person serves, or, in its discretion, persons not in the official service, to be members of boards of examiners, and may at any time substitute any other person in or out of such service in place of any one so selected. Any person not at the time in the official service of the State, or of any political division thereof, serving as a member of the board of examiners, shall be entitled to compensation for every day actually and necessarily spent in the discharge of his duty as examiner at the rate of five dollars a day; but the aggregate compensation of any such examiner shall not exceed $100 in any year. It shall be the duty of the officers of the State of New York, or of any political division thereof, at any place outside of the city of Albany where examinations are directed by said rules or by said board to be held, to allow the reasonable use of the public buildings, and to light and heat the same for holding such examinations, and in all proper ways to facilitate the same. (*Thus amended by Laws of* 1884, *chap.* 357.)

Rooms for commission; commission to procure stationery, etc.—§ 4. It shall be the duty of the trustees of public buildings, designated by chapter 349 of the Laws of 1883, to cause suitable and convenient rooms and accommodations to be assigned or provided, and to be furnished, heated and lighted, at the city of Albany, for carrying on the work of said commission and said examinations, and said commission may order the necessary stationery, postage stamps, an official seal and other articles to be supplied, and the necessary printing to be done for its official use. And the cost and expense thereof, and the several salaries, compensations and necessary expenses of the commission, upon the same being stated in detail and verified by affidavit as the Comptroller may direct, shall be paid monthly from any money in the treasury not otherwise appropriated. (*Thus amended by Laws of* 1884, *chap.* 357.)

Misdemeanor to obstruct right of examination, etc.; false representation.—§ 5. Any commissioner, examiner, copyist or messenger herein mentioned, or any other person who shall willfully and corruptly, by himself or in co-operation with one or more persons, defeat, deceive or obstruct any person in respect of his or her right of examination according to any rules or regulations prescribed pursuant to the provisions of this act, or who shall willfully, corruptly and falsely mark, grade, estimate or report upon the examination or proper standing of any person examined pursuant to the provisions of this act, or aid in so doing, or who shall willfully and corruptly make any false representations concerning the same, or concerning the person examined, or who shall willfully and corruptly furnish to any person any special or secret information for the purpose of either improving or injuring the prospects or chances of any person so examined, or to be examined, shall for each offense be deemed guilty of a misdemeanor. (*Thus amended by Laws of* 1884, *chap.* 410.)

Clerks, etc., to be classified.— § 6. Within four months after the expiration of the present session of the Legislature, it shall be the duty of the Governor to cause to be arranged in classes the several clerks and persons employed or being in the public service, for the purposes of the examination herein provided for, and he shall include in one or more of such classes, so far as practicable, all subordinate places, clerks and officers in the public service of the State.

People ex rel. Killeen v. Angle et al., 47 Hun, 183; 109 N. Y., 564; Cutugno v. Mayor, etc., of New York, 9 N. Y. Supplement, 729.

After eight months persons not to be appointed until examined.—§ 7. After the termination of eight months from the expiration of the present session of the Legislature, no officer or clerk shall be appointed, and no person shall be admitted to or be promoted in either of the said classes now existing, or that may be arranged hereunder pursuant to said rules, until he has passed an examination, or is shown to be specially exempted from such examination in conformity herewith. No elective officer, and no person merely employed as a laborer or workman, shall be required to be classified hereunder; nor unless by direction of the Senate, shall any person who has been nominated for confirmation by the Senate, be required to be classified or to pass an examination.

Mayors of cities to prescribe regulations, etc.; after three months persons not to be appointed, etc., until examined; officers, etc., excepted from provisions of act; examinations to be public; regulations, etc., to be published.—§ 8. The mayor of each city in this State is authorized and is hereby directed to prescribe such regulations for the admission of persons into the civil service of such city as may best promote the efficiency thereof and ascertain the fitness of candidates in respect to character, knowledge and ability for the branch of the service into which they seek to enter, and for this purpose he shall, from time to time, employ suitable persons to conduct such inquiries and make examinations, and shall prescribe their duties and establish regulations for the conduct of persons who may receive appointment in the said service. And the regulations so to be prescribed shall, among other things, provide and declare as in the second subdivision of the second section of this act is provided and declared in reference to regulations for admission to the civil service of the State. Within two months after the passage of this act, it shall be the duty of each of said mayors in and by such regulations to cause to be arranged in classes the several clerks and persons employed or being in the public service of the city of which he is mayor, and he shall include in one or more of such classes, so far as practicable for the purposes of the examination herein provided for, all subordinate clerks and officers in the public service of the said city to whom his power under this act extends. After the termination of three months from the passage of this act no officer or clerk shall be appointed, and no person shall be admitted to or be promoted in either of the said classes now existing or that may be arranged hereunder pursuant to said rules, until he has passed the examination, or is shown to be exempted from such examination, in conformity with such regulations. Such regulations hereinafter prescribed and established, and any subsequent modification thereof, shall take effect upon the approval of the New York Civil Service Commission. Officers elected by the people, and the subordinates of any such officer, for whose errors or violation of duty said officer is financially responsible, and the head or heads of any department of the city government, and persons employed in or who seek to enter the public service under the educational departments of any city, and any subordinate officer who, by virtue of his office, has personal custody of public moneys or public securities, for the safe-keeping of which the head of an office is under official bonds, shall not be subject to the regulations prescribed pursuant to this section, nor shall any regulations contravene an existing statute relating to entrance to said service. It shall be the duty of all those in the official service of any such city to conform to and comply with any regulations made pursuant to this act, and to aid and facilitate in all reasonable and proper ways the enforcement of all regulations and the holding of all examinations which may be required under the authority conferred by this section. But the authority by this section conferred shall not be so exercised as to take from any policeman or fireman any right or benefit conferred by law, or existing under any lawful regulation of the department in which he serves. And all examinations herein authorized shall be public, and all regulations shall be published, and, with all the proceedings and papers connected with said examinations, shall be at all times subject to the inspection of said commission and its agents; and said commission shall set forth in its reports the character and practical effects of such examinations, together with its views as to the improvement and extension of the same, and also copies of all regulations made under the authority hereby conferred. (*Thus amended by Laws of* 1884, *chap.* 410.)

People ex rel. Ryan v. Civil Service Boards of New York, 17 Abb. N. C., 64; 41 Hun, 287; People ex rel. O'Brien v. French et al., 51 Hun, 345; Peck v. Belknap et al., 3 N. Y. Supplement, 872; 55 Hun, 91; Kip v. City of Buffalo, 123 N. Y., 152; Rogers v. Common Council of Buffalo et al., 2 N. Y. Supplement, 326; 123 N. Y., 173; In re Gaffney, 3 N. Y. Supplement, 664; Cutugno v. Mayor, etc., of New York, 9 N. Y. Supplement, 729; Brown v. Duane et al., 14 N. Y. Supplement, 450; In re Wortman, 2 N. Y. Supplement, 324; People ex rel. Wright v. Common Council, Buffalo, 16 Abb. N. C., 96; People ex rel. Chin and Travers v. Moore et al., 16 Abb. N. C., 119; 39 Hun, 478.

Recommendations from certain officers not to be received.—§ 9. No recommendation of any person who shall apply for office or place under the provisions of this act which may be given by any Senator or Member of Assembly, or officer confirmed by the Senate, or judge of any court, except as to the character or residence of the applicant, shall be received or considered by any person concerned in making any examination or appointed under this act.

(§ 10. Repealed by Laws of 1884, chap. 357.)

Political assessments prohibited. — § 11. No officer, agent, clerk or employe under the government of the State of New York or any political division thereof shall, directly or indirectly, use his authority or official influence to compel or induce any other officer, clerk, agent or employe under said government, or any political division thereof, to pay or promise to pay any political assessment. Every said officer, agent or clerk, who may have charge or control in any building, office or room occupied for any purpose of said government, or any said division thereof, is hereby authorized to prohibit the entry of any person, and he shall not consent that any person enter the same for the purpose of therein making, collecting, receiving or giving notice of any political assessment; and no person shall enter or remain in any said office, building or room, or send or direct any letter or other writing thereto, for the purpose of giving notice of, demanding or collecting, nor shall any person therein give notice of, demand, collect or receive any such assessment; and no person shall prepare or make out, or take any part in preparing or making out, any political assessment, subscription or contribution with the intent that the same shall be sent or presented to or collected of any officer, agent or employe, subject to the provisions of this act, under the government of the State of New York, or that of any political division thereof, and no person shall knowingly send or present any political assessment, subscription or contribution to or request its payment of any said officer, agent or employe. (*Thus amended by Laws of* 1884, *chap.* 357.)

Penalty.— § 12. Any person who shall be guilty of violating any provision of the last section shall be deemed guilty of a misdemeanor, and shall on conviction thereof be punished by a fine not less than fifty dollars and not exceeding one thousand dollars, or by imprisonment for a term not exceeding six months, or by both such fine and imprisonment, in the discretion of the court. (*Thus amended by Laws of* 1884, *chap.* 357.)

Recommendations, etc.; not to relate to political opinions, etc. § 13. No recommendation or question under the authority of this act shall relate to the political opinions or affiliations of any person whatever.

Officers or candidates not to promise influence, etc.; penalty; "public officer" and "public employe" defined.— § 14. Whoever while holding any public office, or in nomination for, or while seeking a nomination or appointment for any public office, shall corruptly use or promise to use, whether directly or indirectly, any official authority or influence (whether then possessed or merely anticipated) in the way of conferring upon any person; or in order to secure or aid any person in securing any office of public employment, or any nomination, confirmation, promotion or increase of salary, upon the consideration or condition that the vote or political influence or action of the last-named person, or any other, shall be given or used in behalf of any candidate, officer or party, or upon any other corrupt condition or consideration, shall be deemed guilty of bribery or an attempt at bribery. And whoever, being a public officer, or having or claiming to have any authority or influence for or affecting the nomination, public employment, confirmation, promotion, removal, or increase or decrease of salary of any public officer, shall corruptly use or promise or threaten to use any such authority or influence, directly or indirectly, in order to coerce or persuade the vote or political action of any citizen, or the removal, discharge or promotion of any officer or public employe, or upon any other corrupt consideration, shall also be guilty of bribery or of an attempt at bribery. And every person found guilty of such bribery or an attempt to commit the same, as aforesaid, shall, upon conviction thereof, be liable to be punished by a fine of not less than one hundred dollars nor more than three thousand dollars, or to be imprisoned not less than ten days nor more than two years, or to both said fine and said imprisonment in the discretion of the court. The phrase "public officer" shall be held to include all public officials in this State, whether paid directly or indirectly from the public treasury of the State, or from that of any political division thereof, or by fees or otherwise; and the phrase "public employe" shall be held to include every person not being an officer who is paid from any said treasury.

Quorum; commission shall inquire into the methods of appointments, etc.— § 15. A majority of the members of said board shall constitute a quorum, but a less number may adjourn from day to day. Said commission, when organized, shall immediately inquire into the methods of appointment, removal, terms of service, duties, compensation and numbers of all clerks, employes or subordinate officers of any nature whatsoever, either of this State or of cities or counties therein having a population exceeding fifty thousand inhabitants, who are not by existing laws appointed by the Governor of the State or by the mayor of any city, or elected by the people; and whenever the action of political parties or the public acts of official servants are in any wise affected and if so to what degree, by the present methods of such appointments, tenure of office, removals and compensations, and whether the public interest would or would not be advanced by prescribing competitive tests of standards of appointment for any or all of such subordinate public servants in addition to those who are hereinbefore included, and if so, the nature and extent of such tests or standards; and whether any abuses exist in connection with the existing practices touching said appointment, tenures, compensations or removals that require reform, or that may be abated by legislation or otherwise. Said commission may also further extend its inquiries so far as to enable it to report whether any and if so what legislation is expedient, relative to the methods of compensation of all county officers and their subordinates in this State.

Witnesses, attendance of; fees.— § 16. Said commission shall have like power to secure by its subpœna, the attendance and testimony of witnesses, and the production of books and papers pertinent to the investigations and inquiries hereby authorized, to that prescribed in and by chapter three hundred and fifty-three of the laws of eighteen hundred and eighty-two, for the commission thereby constituted in the execution of its duties as in said act last mentioned; and witnesses and officers to subpœna and secure the attendance of witnesses before said commission shall be entitled to the same fees as are allowed witnesses in civil cases in courts of record. Such fēes need not be prepaid, but the Comptroller shall draw his warrant for the payment of the amount thereof, when the same shall have been certified to by the president of the commission, and duly proved by affidavit or otherwise to the satisfaction of the said Comptroller; and all State, county, town, municipal and other officers and their deputies, clerks, subordinates and employes shall afford the said board all reasonable facilities in conducting the inquiries specified in this act, and give inspection to said board of all books, papers and documents belonging, or in anywise appertaining to their respective offices, and also shall produce said books and papers, and shall attend and testify when required to do so by said commission. (*Thus amended by Laws of* 1884, *chap.* 357.)

Official oath; compensation and expenses; appropriation.—§ 17. Said commissioners hereinbefore named, or in case of vacancy from among their number by declination, resignation or otherwise, a successor commissioner, to be appointed by the Governor, shall qualify by filing with the Secretary of State an oath to perform faithfully the duties of such commissioner. Each commissioner shall receive the compensation hereinbefore provided, together with his actual traveling expenses in the discharge of his duties as such commissioner, the said salaries and expenses, together with the other necessary expenses of said board, to be approved by the Comptroller and thereafter paid out of the treasury of the State; and the sum of fifteen thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the State treasury not otherwise appropriated for the purposes stated in this act.

Laws of 1884, Chap. 357.—An act to amend chapter three hundred and fifty-four of the Laws of eighteen hundred and eighty-three, entitled "An act to regulate and improve the Civil Service of the State of New York."

Sections one to five amend Laws of 1883, chap. 354, sections three, four, eleven, twelve and sixteen, as hereinbefore shown.

Temporary appropriation.—§ 6. The sum of one thousand dollars is hereby appropriated out of any unexpended balance in the treasury to meet any expense incurred by section five of this act; which expense the Treasurer shall pay on the warrant of the Comptroller.

Section seven repeals section ten of the Laws of 1883, chap. 354.

Inspectors of election exempted from examination.—§ 8. The election officers now in office, and the inspectors of election and poll-clerks shall be exempt from examination in accordance with the act hereby amended, or the amendments thereof, and it shall be the duty of the commissioners and mayors of cities so to provide in regulations made under said act.

People ex rel. O'Brien v. French et al., 51 Hun, 345.

§ 9. This act shall take effect immediately.

Laws of 1884, Chap. 410.—An act to amend chapter three hundred and fifty-four of the Laws of eighteen hundred and eighty-three, entitled "An act to regulate and improve the Civil Service of the State of New York."

Sections one and two amend Laws of 1883, chap. 354, section eight, as hereinbefore shown.

Existing regulations in cities continued in force.—§ 3. Where, before the passage of this act, the mayor of any city herein mentioned has prescribed regulations pursuant to the power given him by the act hereby amended, such regulations shall be deemed to be established and prescribed and to be operative as if established, prescribed and approved under the provisions of the said act as hereby amended; and the examiners who, before the passage of this act, have, by the mayor of any such city, been appointed or designated under the provisions of the said act, shall be deemed to be appointed and to have all the powers and duties which they would have if appointed under the provisions of the said act as hereby amended.

Preference allowed honorably discharged soldiers and sailors, etc.— § 4. In grateful recognition of the services, sacrifices and sufferings of persons who served in the army or navy of the United States in the late war, and have been honorably discharged therefrom, they shall be preferred for appointment to positions in the civil service of the State and of the cities affected by this act, over other persons (of equal standing) as ascertained under this act, and the act hereby amended, and the person thus preferred shall not be disqualified from holding any position in said civil service on account of his age nor by reason of any physical disability, provided such disability does not render him incompetent to perform the duties of the position applied for. (*Thus amended by Laws of* 1886, *chap.* 29.)

People ex rel. Chin and Travers v. Moore et al., 16 Abb. N. C., 119; 39 Hun, 478: McGuire v. Byrnes et al., 50 Hun, 203: In re Wortman, 2 N. Y. Supplement, 324.

Honorably discharged soldiers and sailors, after examinations, to be specially certified, etc.— § 5. Whenever it shall appear after a competitive examination for appointment to a position in the civil service of the State, or of the cities affected by this act, and the several acts hereby amended, that more than one such honorably discharged soldier or sailor is qualified to fill the same, the commissioners, board or officer authorized to report names for appointment shall certify to the appointing officer, or the appointing power, all of such honorably discharged soldiers or sailors whose qualifications and fitness have been ascertained as aforesaid, specifying their respective grades in such examination; provided, however, that when more than three of such honorably discharged soldiers or sailors shall be so found duly qualified for appointment to such positions, there shall be certified for such appointment not more than two names in excess of the number of places to be filled, and in all such cases the appointment shall be made from among those, not exceeding three in number, being so certified, who are graded highest, as the result of such examination. (*Added by Laws of* 1886, *chap.* 29.)

People ex rel. Washburn v. French et al., 52 Hun, 464.

§ 3. This act shall take effect immediately.

Laws of 1887, Chapter 464.—An act to amend chapter three hundred and twelve of the Laws of eighteen hundred and eighty-four, entitled "An act respecting the employment of honorably discharged Union soldiers and sailors in the public service of the State of New York."

Section 1. Chapter three hundred and twelve of the Laws of eighteen hundred and eighty-four, entitled "An act respecting the employment of honorably discharged Union soldiers and sailors in the public service of the State of New York," is hereby amended so as to read as follows:

Honorably discharged soldiers and sailors shall be preferred for appointment, etc.—§1. In every public department and upon all public works of the State of New York, and of the cities towns and villages thereof, and also in noncompetitive examinations under the civil service laws, rules or regulations of the same wherever they apply, honorably discharged Union soldiers and sailors shall be preferred for appointment and employment; age, loss of limb or other physical impairment which does not in fact, incapacitate, shall not be deemed to disqualify them, provided they possess the business capacity necessary to discharge the duties of the position involved.

People ex rel. O'Brien v. French et al., 51 Hun, 345 ; People ex rel. Waterman v. Knapp et al., 4 N. Y. Supplement, 825 ; People ex rel. O'Connor v. Adams, 6 N. Y. Supplement, 128 ; People ex rel. Stephens v. Bardin, 7 N. Y. Supplement, 123 ; People ex rel. Lockwood v. Saratoga Springs, 7 N. Y. Supplement, 125 ; Sullivan v. Gilroy, 8 N. Y. Supplement, 401; People ex rel. Hall v. Little Falls, 8 N. Y. Supplement, 512 ; People v. Wallace, 55 Hun, 149; 8 N. Y. Supplement, 591; People ex rel. Snyder v. Summers et al., 9 N. Y. Supplement, 700; Brown v. Duane et al., 14 N. Y. Supplement, 450 ; Sargent v. Gorman, 14 N. Y. Supplement, 481; People ex rel. Travis v. Durston, 3 N. Y. Supplement, 522.

Failure to comply a misdemeanor.—§ 2. All officials or other persons having power of appointment to or employment in the public service as set forth in the first section of this act, are charged with a faithful compliance with its terms, both in letter and spirit, and a failure therein shall be a misdemeanor.

§ 3. This act shall take effect immediately.

Laws of 1887, Chap. 708.—An act providing for the employes of the various departments of the city of Brooklyn and county of Kings.

Honorably discharged soldiers and sailors shall not be removed, etc.—Section 1. All persons holding position in the city of Brooklyn, or county of Kings, receiving salary from said city and county treasury, who shall be an honorably discharged soldier or sailor of the late war of the rebellion, shall not be removed from such position, except for good cause, shown after a hearing had, but such person or persons shall hold such position for and during good behavior.

People ex rel. Wardrop v. Adams, 51 Hun, 583.

§ 2. This act shall take effect immediately.

Laws of 1888, Chap. 119.—An act relating to employes of the various cities and counties of the State.

Honorably discharged soldiers and sailors filling certain positions not to be removed except after a hearing, etc.—Section 1. No person holding a position by appointment in any city or county of this State, receiving a salary from such city or county (unless he has been appointed for a definite term), who is an honorably discharged soldier, sailor or marine, having served as such in the Union army or navy during the war of the rebellion, or the Mexican war, and who shall not have served in the Confederate army or navy, or who shall have served the time required by law in the volunteer fire department of any city, town or village in the State, or who shall have been a member thereof at the time of the disbandment of said volunteer department, shall be removed from such position except for cause shown after a hearing had; but this provision shall not be construed to apply to the position of private secretary or chief clerk or deputy of any official or department, or to any other person holding a confidential relation to the appointing officer. (*Thus amended by Laws of* 1890, *chap.* 67; *Laws of* 1892, *chap.* 577.)

People ex rel. Dickel v. Starks et al., 33 Hun, 384; People ex rel. Brant v. MacLean et al., 58 Hun, 152; People ex rel. Keech v. Thompson, 94 N. Y., 451; People ex rel. Ellithorpe v. Superior Court of Buffalo, 9 N. Y. Supplement, 691; People ex rel. Thompson v. Ransom, 13 N. Y. Supplement, 370; People ex rel. Higgins v. Grant et al., 13 N. Y. Supplement 676; People ex rel. Rossney v. Armbruster et al., 13 N. Y. Supplement, 942; Sargent v. Gorman, 14 N. Y. Supplement, 481; People ex rel. Wren v. Goetting, 8 N. Y. Supplement, 742.

Repeal of all inconsistent laws. § 2. All laws or parts of laws inconsistent with the provisions of this law are hereby repealed.

§ 3. This act shall take effect immediately.

Laws of 1892, Chap. 324. — An act making appropriations for the support of government.

Appropriations for fiscal year beginning October 1.— Section 1. The several amounts named in this act are hereby appropriated and authorized to be paid from the several funds indicated, to the respective public officers, and for the several purposes specified, for the fiscal year beginning on the first day of October, in the year eighteen hundred and ninety-two, namely:

From the General Fund.

* * * * * * * *

Public Buildings.

For the care, cleaning, labor, lights, salary of the superintendent of public buildings, services of orderlies and watchmen, and all necessary expenses of the public buildings, pursuant to the provisions of chapter three hundred and forty-nine of the Laws of eighteen hundred and eighty-three, two hundred thousand dollars, provided that the orderlies and watchmen and persons employed in positions which, on March first, eighteen hundred and eighty-six, were designated on the books of the superintendent of public buildings as those of orderlies and watchmen, who shall receive any portion of said sum of two hundred thousand dollars for their services, shall be persons who are citizens of the State of New York, and who served in the Union army and navy during the late war and have been honorably discharged therefrom, and such honorably discharged person shall not be subject to civil service rules of examination.

* * * * * * * *

Civil Service Commission.

For the Civil Service Commissioners, for salaries, six thousand dollars, and for the actual and necessary traveling expenses of said commissioners in the discharge of their duties, one thousand eight hundred dollars.

For local examinations, two thousand one hundred dollars.

For the chief examiner, for salary, three thousand six hundred dollars, and for his necessary traveling expenses incurred in the discharge of his duty, eight hundred dollars.

For a secretary, stenographer, and a copyist and messenger, for salaries, to be fixed by the commission, two thousand nine hundred dollars, and for traveling expenses of the secretary, five hundred dollars.

For books, printing and stationery and other necessary expenses of the office of the Civil Service Commissioners, one thousand five hundred dollars.

* * * * * * *

The several amounts herein appropriated shall be paid by the treasurer from the respective funds, as specified, and the salaries named shall be established and fixed by this act for the several officers for whom they are designed, but the Comptroller shall not draw his warrant for the payment of the several amounts heretofore named, except for salaries and other expenditures and appropriations, the amounts of which are duly established and fixed by law, until the persons demanding them shall present to him a detailed statement thereof, in items, and shall make all reports required of them by law; and if such account shall be for services, it must show when, where and under what authority they were rendered; if for expenditures, when, where and under what authority they were made; if for articles furnished, when and where they were furnished, to whom they were delivered and under what authority; and if the demand be for traveling expenses, the account must also specify the distance traveled, the place of starting and destination, the duty or business, and all the dates and items of expenditure. But no payment shall be made to any salaried State officer or commissioner, except to commissioners of the land office and trustees of public buildings, for personal expenses incurred by them while in discharge of their duties, as such commissioners or trustees, at Albany.

All accounts must be verified by affidavit, to the effect that the account is true, just and correct, and that no part thereof has been paid, but is actually due and owing.

On all accounts for transportation, furniture, blank and other books, purchased for the use of offices, binding, blanks, printing, stationery, postage, cleaning and other necessary and incidental expenses, a bill duly receipted must also be furnished; and it shall be the duty of the Treasurer to report annually to the Legislature the details of these several expenditures.

No manager, trustee or other officer of any State charitable or other institution receiving moneys from the State treasury, in whole or in part, for the maintenance or support, shall be interested in any purchase or sale by any of said officers for any of the said institutions.

STATE OF NEW YORK, } ss.:
OFFICE OF THE SECRETARY OF STATE. }

I have compared the preceding copy of the statutes relating to the civil service with the originals on file in this office, and do hereby certify that the same is correct.

Given under my hand and seal of office of the Secretary of State, at the city of Albany, this twenty-eighth day of June, in the year one thousand eight hundred and ninety-two.

FRANK RICE,
Secretary of State.

RULES.

STATE OF NEW YORK:

EXECUTIVE CHAMBER, }
ALBANY, *June* 30, 1884. }

In the exercise of the authority conferred upon the Governor by chapter 354, Laws of 1883, entitled "An act to regulate and improve the civil service of the State of New York," and the acts amendatory thereof,

I, Grover Cleveland, Governor of the State of New York, do hereby promulgate the following rules for the regulation of the civil service of the said State, and all officers and persons in the civil service of the State and persons seeking to enter said service will govern themselves accordingly.

Done at the Capitol in the city of Albany, this the thirtieth day of June, in the year of our Lord one thousand eight hundred and eighty-four.

GROVER CLEVELAND.

Definition of terms.— *Rule* 1. In these rules, and the regulations thereunder, the term "Commission" indicates the Civil Service Commission of the State of New York, and the terms "class," "subdivision" and "grade" are those established by the classification of the civil service of the State, approved by the Governor

September 3, 1883, and the positions now comprised in, or hereafter entered in, such classification shall, in the aggregate, be taken as the civil service of the State referred to herein, and the term "public service" shall be taken to comprehend all persons in the service of the State, without regard to such classification.

Political contributions.— *Rule* 2. No person in the public service is, for that reason, under any obligation to contribute to any political fund or purpose, or to render any political service, and no person shall be removed or otherwise prejudiced for refusing so to do.

Official authority to coerce political action prohibited.— *Rule* 3. No person in the public service has the right to use his official authority or influence to coerce the political action of any person or body.

Places to be classified; transfers in schedules to be published.—*Rule* 4. For the purpose of indicating the manner in which selections shall be made for filling the positions in the civil service, when vacant, such positions shall be enrolled by class, subdivision, grade or name in some one of the five schedules, designated respectively as A, B, C, D and E, which schedules are hereto annexed and form a part of these rules. The right is reserved to transfer, hereafter, any position from one schedule to another, as from time to time the conditions of good administration or the general interests of the public service may require, in which case prompt publication of any such transfer will be made to all concerned.

Schedule A to include deputies; confidential officers; fiduciary officers; etc.—*Rule* 5. Schedule A shall include the deputies of principal officers, duly authorized by law to act for their principals; all officers, clerks and others whose official relations are necessarily strictly confidential to the head of the office in which they serve; officers or others under official bonds as security for the collection, custody or disbursement of public moneys, or who, by virtue of their position, have the custody of public moneys for the safe-keeping of which any officer must give bonds, and such other positions as may now or hereafter be included in this schedule, according to law, and such schedule shall comprise the following positions:

Schedule A positions enumerated according to general classification.—**Class* 1. *Subdivision* 2. In the office of the Secretary of State, the deputy secretary; in the office of the Comptroller, the deputy comptroller, confidential clerk,[1] and accountant;[2] in the office of the Treasurer, the deputy treasurer, the chief clerk, the cashier, the bookkeeper, and the pay clerk; in the office of the Attorney-General, the deputies, assistant in New York city,[3] and the confidential clerk; in the office of the State Engineer and Surveyor, the deputy, and resident and division engineers;[4] in the Department of Public Instruction, the deputy, the confidential clerk and stenographer,[5] financial clerk,[6] and the confidential inspector of school buildings;[7] in the Banking Department, the deputy, the examiners,[8] and the private secretary;[9] in the Insurance Department, the deputy, the chief clerk, the cashier,[10] the chief actuary,[10] four assistant actuaries,[10] the private secretary, the special examiners,[11] and the stenographers and typewriters:[12] in the office of the Superintendent of Prisons, the clerk; in the office of the Court of Appeals, the clerk, deputy clerk, reporter, and messenger;[13] in the office of the Inspector-General, the assistant inspector-general, the chief clerk[14], in the office of the Commissioner of the Bureau of Statistics of Labor, the chief clerk,[15] and six special agents;[16] in the office of the Dairy Commissioner assistant commissioners,[17] experts and agents,[17] cheese, butter and vinegar experts,[17] cheese instructors[17] and chemists;[17] in the office of the Superintendent of Public Buildings, the superintendent, and cashier and book-keeper;[18] in the office of the Board of Claims, the clerk[19] and deputy clerk;[19] in the office of the Regents of the University, the secretary, director of examinations,[20] the honorary university examiners,[21] and the medical examiners;[21] in the office of the New York Board of Excise, the secretary,[22] counsel,[23] cashier,[23] and four special detectives;[24] Board of Electrical Control, New York city, the chief engineer,[25] and assistant secretary;[25] secretary and assistant secretary[26] to the State Board of Health; the secretaries of the Railroad Commission, the Board of Charities, the Commission in Lunacy, the Forest Commission,[27] and the New York Civil Service Commission; the chief examiner of the New York Civil Service commission; chaplains[28] in the State service; treasurers of asylums; game and fish protectors; principals,[29] professors[29] and teachers[29] in Normal schools; in the office of the Adjutant-General, the assistant adjutant-general, the confidential clerk;[30] the State agent for discharged convicts;[31] law assistant[32] and private stenographer[32] to the surrogate, New York city; the chief clerk[32] of the Superior Court, court of Common Pleas, City Court, Court of General Sessions, Court of Special Sessions, Surrogate's Court and each District Court, New York city; secretary[33] of the Board of Police Justices; the police clerk[33] of each Police Court; the clerk[33] and assistant clerk[34] of each District Court, New York city; interpreters[35] in courts; confidential clerk[36] in the department of the State Geologist; adjutant[37] in the State Soldiers' and Sailors' Home; confidential assistant[38] to Superintendent Elmira Reformatory.

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* For general classification see page 51.

1. Transferred from Schedule B to A, January 27, 1884; 2. Schedule B to A, June 25, 1890; 3. Schedule B to A, February 15, 1888; 4. Schedule C to A, July 26, 1886; 5. Schedule B to A, August 31, 1885; 6. Schedule B to A, July 26, 1892; 7. Schedule B to A, January 8, 1886; 8. Schedule B to A, May 20, 1884; 9. Schedule B to A, December 10, 1890. 10. Schedule B to A, March 19, 1890; 11. Schedule B to A, May 12, 1885; 12. Schedule B to A, June 5, 1891; 13. Schedule B to A, February 20, 1889; 14. Schedule B to A, July 13, 1886; 15. Schedule B to A, February 17, 1885; 16. Schedule B to A, February 7, 1889; 17. Schedule C to A, August 17, 1892; 18. Schedule B to A, October 17, 1887; 19. Schedule B to A, February 27, 1888; 20. Schedule B to A, March 11, 1892; 21. Schedule B to A, September 10, 1891; 22. Schedule B to A, July 26, 1886; 23. Schedule B to A, December 2, 1884; 24. Schedule B to A, September 10, 1889; 25. Schedule B to A, April 27, 1888; 26. Schedule B to A, August 18, 1892; 27. Schedule B to A, January 27, 1887; 28. Schedule C to A, January 3, 1889; 29. Schedule C to A, January 5, 1885; 30. Schedule B to A, April 30, 1892; 31. Schedule B to A, October 17, 1887; 32. Schedule B to A, December 2, 1884; 33. Schedule B to A, September 14, 1885; 34. Exempt, chap. 10, Laws of 1887; 35. Schedule B. to A, December 17, 1890; 36. Schedule B to A, February 26, 1892; 37. Schedule B to A, June 28, 1892; 38. Schedule B to A, June 28, 1892.

Schedule A positions may be filled without examination; officers to report appointments.— *Rule* 6. The appointments to positions comprised in Schedule A may be made without examination under these rules, but such examinations may be had upon the request of the appointing officer. Appointing officers must notify the Commission, in writing, of all appointments to such positions within five days after the same are made.

Schedule B positions enumerated according to general classification.*— *Rule* 7. Schedule B shall include the following positions :

Clerks, etc., who receive less than $1,500 per annum.— *Class* 1. All clerks and other persons, of whatever designation, rendering services similar to those of clerks in any branch of the State service in the following grades:

Subdivision 1. *First Grade.* Clerks and like employes receiving an annual compensation of less than one thousand dollars.

Second Grade. Clerks and like employes receiving an annual compensation of one thousand dollars or more, but less than one thousand two hundred dollars.

Third Grade. Clerks and like employes receiving an annual compensation of one thousand two hundred dollars or more, but less than one thousand five hundred dollars.

Professional and expert employments.— *Class* 2. Civil engineers and surveyors ;[1] chemists ;[1] census enumerators.[2]

Under the board of electrical control, the electrical expert ;[3] the inspectors of electrical conductors,[3] the inspectors of underground construction.[3]

1. Transferred from Schedule C to B, November 10, 1884; 2. Classified April 1, 1885; 3. Classified April 27, 1888.

Superintendents, messengers, etc. — *Class* 3. *Subdivision* 2. Superintendents and assistant superintendents in charge of public buildings under the general superintendent.

Transferred from Schedule C to B, November 10, 1884.

Subdivision 3. Office messengers and orderlies in the courts, offices and public buildings.[1] Junior clerks.[2] Pages.[3]

1. Amended, April 24, 1890; 2. Classified, December 17, 1890; 3. Classified, February 7, 1889.

Subdivision 4. All steam engineers.

Transferred from Schedule D to B, November 10, 1884.

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* For general classification see page 51.

Assistant engineers, rodmen, etc. — *Class* 4. *Subdivision* 3. *First Grade.* Rodmen and levelmen.[1]

Second Grade. Assistant engineers[1] below the rank of resident.

[1] Transferred from Schedule C to B, November 10. 1884.

Prisons, etc. — *Class* 6. In prisons and reformatories.

Subdivision 2. Physicians.

Transferred from Schedule C to B, November 10, 1884.

Subdivision 3. *First Grade.* Guards in reformatories.

Subdivision 4. Steam engineers.

Transferred from Schedule D to B, November 10, 1884.

Subdivision 5. *First Grade.* Teachers in reformatories receiving an annual compensation of less than $500.

Hospitals, etc. — *Class* 7. In asylums, hospitals and similar institutions.

Subdivision 1. Superintendents of State hospitals.

Transferred from Schedule C to B, October 17, 1890.

Subdivision 3. Assistant physicians and pathologists in State hospitals in the lowest grade in each hospital. First assistant physicians in State hospitals. Female physicians.

Transferred from Schedule C to B, October 17, 1890.

Subdivision 7. *First Grade.* Teachers receiving an annual compensation of less than $500.

Schedule B positions competitive. — *Rule* 8. Appointments shall be made or employment shall be given in the positions in Schedule B by selection from those persons graded highest, as the results of open competitive examinations.

Competitive examinations to be practical, time and place of; notice to be given. — *Rule* 9. The competitive examinations shall be practical in their character, and with paramount regard to those matters which will fairly test the relative capacity and fitness of the persons examined for the service which they seek to enter. The examinations shall be held at such times and places as the Commission may designate, and ten days' previous notice of each examination will be mailed to all eligible applicants of record. Special regulations in which the particular conditions (if any) of the examination will be specified, will be issued, when deemed expedient by the Commission, prior to the examinations.

Applications for examinations; what to contain.— *Rule* 10. All regular applications for admission to such competitive examinations will be on blanks in a form prescribed by the Commission, and the applicant must state therein on oath, and in his own handwriting: 1. His full name, residence and post-office address. 2. His term of residence in this State. 3. His citizenship. 4. His date of birth. 5. His place of birth. 6. His previous employment in the public service, if any. 7. His business or employment for the last preceding five years. 8. His education. 9. If in the military or naval service of the United States in the late war, give name of organization or vessel to which attached, date of enlistment or commission, position or rank, date and cause of discharge from the service, and any physical disability incurred in such service. 10. Such other information must be furnished as the Commission may reasonably require, touching the applicant's fitness for the public service.

The application must be accompanied (1) by a certificate of a practicing physician in good repute, that he has examined the applicant and found him free from any physical defect or disease that would be likely to interfere with the proper discharge of his duties in the position in the civil service sought by such applicant; and (2) by the certificate of not less than three nor more than five reputable citizens of this State that they have been personally acquainted with the applicant for at least one year, and believe him to be of good moral character, of temperate and industrious habits, and in all respects fit for the service he wishes to enter, and that they are willing that such certificate shall be published for public information. The applicant must also state in his application the grade or subdivision in the schedule he seeks to enter, and whether he limits such application to any particular department, office or institution.

Defective applications.— *Rule* 11. Defective applications will be suspended and applicants notified to amend the same, but no such notice will be given or opportunity granted a second time. Whenever the application shows that the applicant is not within the prescribed limits of age, or otherwise not qualified under the rules and regulations, or is manifestly unfit for the service, the application will be rejected.

Applications to be filed, etc.; notification to appear; soldiers, etc., preferred.— *Rule* 12. The date of the reception of all applications shall be endorsed thereon, and entered of record by the Commission, and if the applicants for admission to any grade or subdivision are in excess of a number that can be examined at a single examination, they will be notified to appear in their order on the respective records, provided that persons who have been honorably discharged from the military or naval service of the United States in the late war shall have precedence in such notification.

Boards of examiners to be designated.— *Rule* 13. For the purpose of making examinations of applicants from time to time, as may be required, the Commission will designate and select, at Albany and other places, a suitable number of persons to be members of boards of examiners, and will duly commission such persons as examiners; and the Commission may at any time substitute any other person in place of any one so selected. When persons selected as examiners are in the official service of the State, the head of the department or office in which such persons serve shall be consulted; and in the discharge of their duties as examiners the persons so selected from the official service will be responsible solely to the Commission, and will act under its regulations and direction.

Chief examiner to prepare lists of subjects for examination, etc.; standing of applicants, how determined.— *Rule* 14. Under the direction of the Commission the chief examiner will prepare a list of subjects of examination for the several grades and subdivisions in this schedule upon which each applicant must be examined. To such list of obligatory subjects there may be added certain other subjects in which the applicant may be examined or not, at his option. The general standing of each applicant shall depend solely upon his relative proficiency in the obligatory subjects. For the purpose of determining the general average standing, certain relative weights will be given to the obligatory subjects, which weights shall be adjusted to the relative importance of the subjects.

Minimum standing.—*Rule* 15. No person whose standing on any obligatory subject is less than fifty, or whose ascertained average standing on all the obligatory subjects is less than seventy, will be entered upon the eligible list.

Names of successful candidates to be entered in register, etc.—*Rule* 16. The names of the persons who have passed above the minimum, as set forth in the previous rule, will be entered upon a register in the order of their excellence, and opposite each name will be entered the standing of such person in each optional subject in which he may have been examined.

Manner of certification; appointments.—*Rule* 17. 1. Whenever an officer having the power of appointment to or employment in any grade or subdivision in this schedule shall so request, the commission shall certify to him the names of three eligible persons who are graded highest on the proper register, indicating such of them (if any) as have been honorably discharged from the military or naval service of the United States in the late war.

2. From the three persons whose names are so certified the officer shall make a selection to fill the vacant place, subject, however, to the provisions of Rule 44, giving preference in appointment to certain persons.

3. Whenever such request shall indicate that proficiency in any of the specified optional subjects is of prime importance in the position to be filled, the Commission may certify the names of the three persons in the eligible list having the highest standing (not being below the minimum of seventy) on such optional subject. The Commission shall have power to order a new or special examination whenever there are no persons on the eligible list, sufficiently qualified in such optional subjects, or whenever an appointing officer shall apprise the Commission that any special qualifications are required for the position vacant. All positions filled by selections based on optional or special subjects will be especially noted in tne published gazette of appointments, and in the official register of qualifications and schemes for examination as being special positions in respect to such qualifications.

4. In the selection from the persons whose names are certified as above by the Commission, the appointing or employing officer,

upon his written requisition therefor, will be furnished with the application and examination papers of all the persons so certified, and in the exercise of his responsible power of selection he may summon personally before him the certified persons for such verbal inquiries as he may deem proper. All papers furnished upon requisition as above, must be returned to the Commission with the notice of selection.

Applicants to pass physical examination, when.—*Rule* 18. Whenever physical qualifications are of prime importance in the proper discharge of duties in any position, applicants must pass a physical examination and be certified as qualified in such respect before record on the proper eligible list for selection for such position, or before certification by the Commission as qualified for such selection.

Same person certified to same officer three times only, unless, etc.; eligible list, term of; name may be stricken from, when; persons not admitted to new examination in same year, etc.— *Rule* 19. 1. No person on any register shall be certified more than three times to the same officer, except upon request of such officer; nor shall any one remain eligible more than one year on any register.

2. Upon satisfactory evidence produced to the Commission that any person whose name is on any eligible list is, by reason of his character, habits or past reputation, unfit for admission to the civil service, the name of such person shall be formally stricken from such eligible list.

3. No person who has entered upon any examination for a position in Schedule B or C shall be admitted, within one year from the date thereof, to a new examination for the same grade or subdivision.

Schedule C positions enumerated according to general classification.*— *Rule* 20. Schedule C shall include the following positions:

Scientific, expert and special employments, etc. — *Class* 2. All persons of special qualifications (except those employed in the salt works, prisons, reformatories, asylums or other charitable and corrective institutions), including directors or curators of museums, geologists, botanists and entomologists and their respective assistants; librarians and their assistants; sanitary experts; inspectors of quarantine hospitals; medical superintendent of immigrants; health officers;[1] in the office of the Comptroller, voucher clerk,[2] corporation tax clerk,[3] assistant corporation tax clerk,[3] chief clerk of the bureau of canal affairs,[4] chief tax clerk,[4] land (or first assistant) tax clerk,[4] tax correspondent,[5] special accountant,[5] agent for State lands,[6] auction agent,[6] and assistant auction agent,[6] and messenger;[7] in the office of the Secretary of State, chief clerk,[8] confidential clerk and stenographer,[8] corporation examiner,[8] assistant corporation examiner,[9] corporation book-keeper,[10] cashier and book-keeper,[8] and two messengers;[8-11] in the office of the Treasurer, check clerk,[12] and corporation tax clerk;[13] in the office of the Attorney-General, assistant to second deputy,[14] brief clerk,[14] and messenger;[15] in the office of the State Engineer and Surveyor, chief clerk;[16] in the Department of Public Instruction, examination clerk†, law clerk;[17] in the office of the Superintendent of State Prisons, the messenger;[18] in the office of the agent and warden of Sing Sing Prison, the stenographer;[19] in the office of the Factory Inspector, the private secretary;[20] in the office of the Commission in Lunacy, the confidential clerk and stenographer;[21] in the office of the Board of Claims, the stenographer;[22] in the office of the General Inspector of Rifle Practice, the clerk;[23] at the Institution for the Blind, Batavia, the musical director;[24] the superintendent of the Creedmore Rifle Range;[25] in the department of the New York Board of Excise, law clerk,[26] three application clerks,[27] and inspectors.[28]

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*For general classifications see page 52.

1. Transferred from Schedule B to C, December 29, 1884; 2. Schedule B to C, April 23, 1892; 3. Schedule B to C, January 8, 1886; 4. Schedule B to C, June 11, 1888; 5. Schedule B to C, August 2, 1888; 6. Schedule B to C, December, 27, 1883; 7. Schedule B to C, July 20, 1885; 8. Schedule B to C, December 29, 1885; 9. Schedule B to C, June 19, 1888; 10. Schedule B to C, December 3, 1892; 11. Schedule B to C, April 24, 1890; 12. Schedule B to C, October 12, 1885; 13. Schedule B to C, July 13, 1886; 14. Schedule B to C, November 11, 1886; 15. Schedule B to C, July 18, 1889; 16. Schedule B to C, December 3, 1892; † Schedule B to C, December 23, 1892; 17. Schedule B to C, March 30, 1886; 18. Schedule B to C, January 25, 1888; 19. Schedule B to C, January 3, 1887; 20. Schedule B to C, August 22, 1888; 21. Schedule B to C, September 10, 1889; 22. Schedule B to C, February 27, 1888; 23. Schedule B to C, July 21, 1885; 24. Schedule B to C, June 29, 1885; 25. Schedule B to C, May 29, 1890; 26. Shedule B to C, September 20, 1886; 27. Schedule B to C, April 27, 1888; 28. Schedule B to C, December 2, 1884.

Court Officers.— *Class* 3. *Subdivision* 1. Court criers and attendants; court and other marshals; stenographers of courts;[1] messenger in the office of Board of Claims;[2] clerks' assistants,[3] court attendants and stenographers of the police courts,[3] and attendants,[1] officers and court attendants[1] and stenographers of the district courts,[1] assistant clerks,[4] subpœna clerks,[4] stenographers[4] and attendants[4] of the Courts of General and Special Sessions; court janitors.[5]

1. Transferred from Schedule B to C, January 5, 1885; 2. Schedule B to C, March 31, 1885; 3. Schedule B to C, September 14, 1885; 4. Schedule B to C, January 15, 1886; 5. Schedule B to C, October 28, 1892.

Class 4. *Subdivision* 1. (Obsolete.) December 5, 1888.

Onondaga Salt Works.— *Class* 5. On the Onondaga salt works.

Subdivision 1. *First Grade.* Engineers (except the chief engineer), overseers of pumps and supervisors of aqueducts and reservoirs.

Second Grade. Chief engineer.

Subdivision 2. *First Grade.* Assistant inspectors of salt or of barrels.

Prisons, etc.— *Class* 6. In the prisons and reformatories.

Subdivision 1. Wardens and agents of prisons; superintendents of reformatories.

Subdivision 2.— Principal matrons, clerks.

Hospitals, etc.— *Class* 7. In asylums and hospitals.

Subdivision 2. Superintendents of asylums other than those for the insane.

Subdivision 4. Physicians other than those in insane asylums.

Subdivision 5. Stewards of asylums; matrons of asylums.

Examinations for positions in Schedule C discretionary with appointing officer; methods enumerated.— *Rule* 21. The positions in Schedule C may be filled by the appointing officer in his discretion in respect to the manner of examination. The discretion of the officer in such cases shall be limited as follows: (1) he may select from the three persons graded highest as the result of an open competitive examination; (2) he may name to the commission three or more persons for competitive examination, and appoint the one graded highest in such examination; or (3) he may appoint or employ any person named by him who upon a non-competitive examination shall be duly certified by the commission as qualified to discharge the duties of the position.

Competitive examinations for Schedule C positions.—*Rule* 22. Competitive examinations for positions in Schedule C will be subject to the same general provisions as prescribed in Rules 8 to 18, both inclusive. If the competition be an open one, the public notice thereof shall denote the special qualifications in which competitors shall be examined. Before admission to a limited competition, the nominees must file with the commission the certificates required by Rule 10.

Non-competitive examination for Schedule C positions.—*Rule* 23. 1. Upon the non-competitive examination into the qualifications of a person named to the commission for a position in this schedule, the commission will give a certificate to such person only when satisfied:

First. That he is within the limits of age prescribed for the position or employment to which he has been named.

Second. That he is properly certified as free from any physical defect or disease which would be likely to interfere with the proper discharge of his duties.

Third. That his character is such as to qualify him for such position or employment; and

Fourth. That he possesses the requisite knowledge and ability to enter on the discharge of his official duties.

2. An officer naming to the commission a person for examination, will, at the same time, transmit his certificate that after due inquiry he is satisfied that the character and habits of the person named fit him for the civil service, and will append to the certificate such formal vouchers or credentials as to character as he may desire to have considered or put on file. In the determination of character or habits of the nominee, the certificate thereof by the nominating officer will be considered as essential.

Subjects, scope of examinations, etc., to be published in annual report.—*Rule* 24. In determining the limits of age and the subjects and scope of the examination into the qualifications for each position as defined in the fourth clause of the preceding rule, the head of the department, office or institution where such position is to be filled, shall be consulted by the Commission, or where the position is common to several offices or institutions, the several heads thereof shall be so consulted, and the regulations finally adopted for each position shall be published in the annual reports of the Commission. Differences arising under this rule between the heads of departments, offices and institutions and the Commission shall be reported to the Governor, whose decision in such case shall be final and conclusive.

Vacancy in Schedule C position, how filled.—*Rule* 25. Whenever a vacancy in this schedule in any department, office or institution is to be filled, the officer having the authority to fill the same shall notify the Commission which of the three methods in his discretion under Rule 21 he selects, and if the choice be by an open competition, the Commission shall proceed as for an examination under Schedule B, but if the choice be by a limited competition or by the appointment of a person to be duly certified by the Commission as qualified, the officer aforesaid shall name in such notification the person or persons to be examined, and the Commission shall thereupon instruct the proper board of examiners and shall notify the person or persons so named of the time, place and special regulations for the examination; and the chief examiner shall supervise the preparation of proper questions and other inquiries to test the qualifications of such person or persons.

Boards of Examiners for positions in Schedules C and D, etc.; special examiners; examiners to report violations.—*Rule* 26. The examiners for positions in Schedules C and D will be selected in the same manner and subject to the same rules and regulations as the examiners provided for in Rule 13.

Regular boards of examiners may be authorized to conduct examinations of persons duly cited to appear before them for positions in any schedule. Whenever the peculiar duties devolved upon any position or class of positions may so require, special examiners will be designated and commissioned. All examiners for the civil service will promptly report to the Commission any violation of the provisions of the fifth section of the Civil Service Act.

Schedule D positions enumerated according to general classification.[*] — *Rule* 27. Schedule D shall include the following positions.

Sanitary inspectors.—*Class* 2. Sanitary inspectors[1] appointed or employed under the General Health Act; Warden and Foresters[2] Forest Commission.

1. Classified April 1, 1885; 2. Classified January 27, 1887.

Janitors, watchmen, mechanics, porters, etc.—*Class* 3. *Subdivision* 3. Keepers and janitors of public buildings, arsenals, bureaus, etc., watchmen, firemen, porters and porteresses in public buildings. (*Thus amended April* 24, 1890.)

Subdivision 4. All persons engaged in expert mechanical duties in public buildings or arsenals.

Class 4. (Obsolete,) December 5, 1888.

Onondaga Salt Works.—*Class* 5. Subdivision 3. All persons employed on the Onondaga Salt Works, not otherwise classified.

Prisons, etc.—*Class* 6. In the prisons and reformatories.

Subdivision 4. All persons employed as expert mechanics in prisons and reformatories. Prison guards.[1]

1. Transferred from Schedule B to D May 27, 1889.

Subdivision 6. All persons employed not otherwise classified and excepting laborers.

First Grade. Such persons receiving an annual compensation of less than $500.

Second Grade. Such persons receiving an annual compensation of $500 or more.

Hospitals, etc. — *Class* 7. In asylums and other similar institutions.

Subdivision 6. Engineers and expert mechanics and tradesmen.

Subdivision 8. *First Grade.* Attendants, nurses and orderlies.

Subdivision 9. All other persons employed in asylums not otherwise classified.

First Grade. All such persons receiving an annual compensation of less than $500.

Second Grade. All such persons receiving an annual compensation of $500 or more.

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[*] For general classification see page 51.

Schedule D positions, how filled; vacancies, how filled, etc.—*Rule* 28. The positions in Schedule D must be filled by such persons as upon proper non-competitive examination shall be certified as qualified to discharge the duties of such position by an examiner or examiners selected or appointed for that purpose by the Commission. The head of any office, department or institution in which there may be a vacancy or vacancies in any position or positions in this schedule, may name for examination a person for each vacancy. The Commission may provide by special regulation that in any institution where a number of persons are employed in the same grade, the employing officer may name for examination more than one person, in order that there may be a list of qualified persons from which to make an immediate selection in case of vacancy. Such nominations may be made to the Commission, or to an examiner or board of examiners, as the Commission may prescribe by regulations.

Examinations for Schedule D positions; scope and details, how determined.—*Rule* 29. Examinations for positions in Schedule D shall be in all the four classes of qualifications defined in Rule 23, and their scope and details shall be determined in the manner directed in Rule 24. The examiner or examiners will be instructed by the Commission in general or special regulations as to the standard, scope and methods of examination, the method of certification and the character of the records and reports to be made.

Schedule E positions enumerated according to general classification.*—*Rule* 30. Schedule E shall include the following positions:

Clerks, etc., who receive $1,500 or more per annum.—*Class* 1. *Subdivision* 1. All clerks and other persons of whatever designation rendering services similar to those of clerks in any branch of the State service.

Fourth Grade. Clerks and like employes receiving an annual compensation of $1,500 or more, but less than $1,800.

Fifth Grade. Clerks and like employes receiving an annual compensation of $1,800 or more, but less than $2,000.

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*For general classification see page 51

Sixth Grade. Clerks and like employes receiving an annual compensation of $2,000 or more, but less than $2,500.

Seventh Grade. Clerks and like employes receiving an annual compensation of $2,500 or more.

Onondaga Salt Works.—*Class* 5. Persons employed on the Onondaga Salt Works.

Subdivision 2. *Second Grade.* Receivers and inspectors of salt or of barrels.

Third Grade. Chief inspector of salt and chief inspector of barrels.

Keepers and teachers in prisons.— *Class* 6. Persons employed in prisons and reformatories.

Subdivision 3. *Second Grade.* Keepers in prisons or reformaories receiving an annual compensation of $900 or less.

Third Grade. Keepers in prisons or reformatories receiving an annual compensation greater than $900 except the principal keepers.

Fourth Grade. Principal keepers.

Subdivision 5. *Second Grade.* Teachers receiving an annual compensation of $500 or more, but less than $1,000.

Third Grade. Teachers receiving an annual compensation of $1,000 or more.

Assistant physicians, teachers, etc., in hospitals.— *Class* 7. Persons employed in asylums and other similar institutions.

Subdivision 3. All assistant physicians and pathologists in insane asylums, except those in the lowest grade.

Subdivision 7. *Second Grade.* Teachers receiving an annual compensation of $500 or more.

Subdivision 8. *Second Grade.* Supervisors of asylums and wards.

Schedule E positions to be filled by promotion; may be filled otherwise; promotions to be made by successive grades.— *Rule* 31. The positions in Schedule E shall be filled, when vacant, by the promotion of those in the service in the lower grades of the same subdivision in the department, office or institution in which the vacancy or vacancies may occur. Promotions shall be made subject to the provisions of these rules, by the officer or officers having the power of appointment. If, in the judgment of such officer or officers, there be none found in the lower grades fit to perform the duties in such vacant positions, in that case, and in no other, the positions may be filled in the same manner as is prescribed by these rules for filling the positions in the lowest grade of the same subdivision and class. Promotions shall be made by successive grades; in case of vacancy in any position in this schedule, it shall be filled by a selection from the next inferior grade, if there be any person in such grade fit for promotion; and if there be no such person, then the promotion shall be made by selection from the next inferior grade, and so on until all the inferior grades are exhausted, and no person therein found fit, when the position shall be filled by appointment as above provided.

Promotions to be based upon merit; records of efficiency, etc., to be kept in departments; examinations for promotion.—*Rule* 32. Promotion will, in all cases, be based upon the positive merit of the person promoted, and upon his superior qualifications, as shown by his previous service. There shall be kept in every department, office and institution, proper comparative records of the efficiency, punctuality, attention and general good conduct of all persons employed therein. No person in the service when these rules take effect can be promoted without passing an examination, under the rules, of the same character as would an applicant for appointment to a similar position in the service. Examinations for promotion shall be based upon the actual work of the persons named therefor, as exhibited in the records of the office where they have been employed, and upon the certificate of their immediate official superiors, that their efficiency and conduct during their past service has been in all respects satisfactory and entitles them to favorable consideration.

Recommendations for promotion not to be received unless, etc.; other recommendations unwarranted.—*Rule* 33. No recommendation of any person for promotion shall be entertained or received unless made in the regular course of duty by his immediate official superiors, and the presentation of any recommendation other than that of such superiors will be considered an unwarrantable interference with the public service, and the person so recommended may be required to show before being certified for promotion, that such recommendation was not made by his request or connivance.

Temporary appointment not to be made of persons ineligible for permanent place; officers before appointing to certify character of service, etc.; Commission to certify names; second temporary appointment not to be made unless, etc.; appointments to be reported to Commission.— *Rule* 34. No temporary appointment or employment shall be made of any one not eligible for permanent employment except as hereinafter provided.

Every officer having the power of such employment, shall, previous to making the same, certify to the Commission the duration and character of the service to be rendered and the rate of compensation to be paid therefor. When such duration or term of service is certified to be for a longer period than one month, the Commission shall certify to the appointing officer the names of the three graded highest on the proper register, who, upon due inquiry, are found willing to accept such temporary appointment, and from the three so certified a selection shall be made for the temporary service required. When the duration of service is certified not to exceed one month, and the need of such service to be immediate and urgent, the appointing officer may select for such temporary service any person on the proper register of those eligible for permanent appointment; except that in the prisons, reformatories and asylums, temporary substitutes may be appointed without examination, for not exceeding thirty days in cases of disability by reason of sickness or otherwise; and except that temporary appointment of officers may be made, for not more than five days in any case, to transfer prisoners from one prison to another or as substitutes for regular officers who are necessarily absent engaged in this duty.

No person appointed under this rule except those appointed as herein provided for the transfer of prisoners, shall be appointed temporarily a second time unless sixty days shall have elapsed since the termination of his previous term of temporary service, and every temporary appointment without examination must be reported to the Commission within five days, with the reason for the same. (*Thus amended January* 14 *and May* 31, 1886.)

Citizens and residents of State only to be appointed; exceptions; age limits.— *Rule* 35. No person shall be appointed to any position in the civil service unless he is a citizen of the State and has been a resident thereof for at least one year previous to the date of his application or nomination. But this restriction shall not apply to the following positions in Schedule B, to wit: guards and overseers, State Reformatory, Elmira,[1] in Schedule C, to wit: matron and principal of Nurses' Training School at the Hudson River State Hospital;[2] assistant curator of the State Museum;[3] matron at the State Hospital, Buffalo;[4] in Schedule D, to wit: all persons employed on the Onondaga Salt Works, not otherwise classified; all persons employed in prisons and reformatories, not otherwise classified, and excepting laborers receiving an annual compensation of less than $500; attendants, nurses, and orderlies in asylums and similar institutions; all other persons, not otherwise classified, in asylums and similar institutions, receiving an annual compensation of less than $500. Any other exceptions from such restriction made by special regulation of the Commission shall be reported by it to the Legislature with reasons therefor.

Thus amended, 1. December 16, 1884; 2. November 7, 1887; 3. November 28, 1887; 4. January 17, 1888.

The maximum age for clerical positions in Schedule B and prison guards and keepers in the State civil service classification, except honorably discharged soldiers and sailors, shall be fifty years at the time of application, and the minimum age for messengers, stenographers and typewriters shall be eighteen years. (*Thus amended August* 1, 1887, *and March* 13, 1889.)

Political affiliations not to be regarded, etc. — *Rule* 36. In the selection, nomination or appointment of persons to fill positions in Schedules B, C and D, or promotion of persons to positions in Schedule E, no regard shall be paid to the partisan political opinions, affiliations or action of any person so selected, nominated, appointed or promoted.

Transfers and promotions after examination; without examination, when. — *Rule* 37. No transfer or promotion shall be made from a position in a subdivision in any schedule to a position in another subdivision in that schedule, or to one in any other schedule except by virtue of the examination and certification prescribed under these rules for admission to such last-named subdivision. Transfer without examination may be made from a position in one department, office or institution to a similar position in another department, office or institution upon the mutual consent of the heads of the respective departments, offices or institutions.

When application to be rejected. — *Rule* 38. Any application for a position in the civil service, made in contravention of the provisions of the ninth or thirteenth sections of the Civil Service Act, must be rejected.

Disclosure of political affiliation not to be called for. — *Rule* 39. No question in any examination or proceeding, by or under the Commission or examiners, shall call for the expression or disclosure of any partisan political opinion or affiliation of any person, whatever, nor shall any discrimination be made by reason thereof; and the Commission and its examiners shall discountenance all disclosure before either of them, of such partisan opinion or affiliation by or concerning any applicants for examination, or by or concerning any person on any register awaiting appointment or employment.

Every original appointment for probationary term; services to be observed and reported.— *Rule* 40. Every original appointment or employment in the civil service shall be for a probationary term of three months, at the end of which time if the conduct and capacity of the person appointed or employed shall have been found satisfactory, the probationer shall be absolutely appointed or employed, but otherwise his employment shall cease.

Every officer under whom any probationer shall serve during any part of such probation shall carefully observe the quality and value of the services rendered by such probationer, and shall report in writing to the proper appointing officer the facts observed by him, showing the character and qualifications of such probationer, and of the service performed by him; and such reports shall be preserved on file.

False statements, etc., cause for removal.—*Rule* 41. Every false statement knowingly made by any person in his application for examination, and every connivance by him at any false statement made in any certificate which may accompany his application, or any willful complicity by him in any fraud to improve his standing upon examination, shall be regarded as good cause for removal or discharge of such person during his probation.

Provisional appointments, when may be made; to be reported.— *Rule* 42. If for any sufficient reason it shall be impracticable to supply the names of persons who have passed a competitive examination in due season for any appointment or employment in any position in Schedule B, a provisional appointment may be made of a person who has passed a non-competitive examination under the direction and regulation of the Commission; but the next report shall give the reason for such resort to non-competitive examination.

Appointing officers to report to Commission appointments, transfers, removals, etc.; officer who appoints, or promotes persons to notify fiscal officer before certifying any account for services.—*Rule* 43. 1. All persons having the power of appointment to or employment in any position in the civil service must give notice in writing to the Commission of the name and place of residence of any person selected for appointment or employment in any position, of the rejection of any such person after probation, and of the transfers, promotions, resignations and removals, discharge or death of all persons serving under them, with the dates thereof.

2. Any officer who appoints, employs or promotes a person to or in a position in the civil service, the compensation for which is paid from the S ate treasury, or the account for which is subject to audit by the Comptroller, shall officially notify the Comptroller of such appointment, employment or promotion before certifying or rendering any account for the services of such person. Where the payment for the services in any position in the civil service is not payable from the State treasury, nor subject to audit by the Comptroller; the notification as above of any appointment, employment or promotion to or in such position, shall be duly made to the fiscal officer empowered by law to pay the account for such services.

Honorably discharged soldiers and sailors to be preferred for appointment, etc.— *Rule* 44. Persons who have been honorably discharged from the army or navy of the United States in the late war, and whose qualifications and fitness have been ascertained under these rules, by competitive examinations, shall be preferred for appointments to positions in the civil service of the State over all other persons, though graded lower than the others so examined, and the persons thus preferred shall not be disqualified from holding any position in the civil service on account of their age, nor by reason of any physical disability, provided such age or disability does not render them incompetent to perform the duties of the position applied for.

When not more than three honorably discharged soldiers or sailors, whose qualifications and fitness have been ascertained by competitive examination under the rules, shall be on the eligible list at the time a requisition shall be made for an appointment, the names of all such soldiers or sailors, with a specification of their respective grades in such examination, shall be certified to the appointing officer, but when more than three names of such honorably discharged soldiers or sailors shall be on the eligible list, there shall be certified for such appointment not more than two names in excess of the number of places to be filled, and in all such cases the appointment shall be made from among those, not exceeding three in number, thus certified, who are graded highest as the result of competitive examinations. (*Thus amended in conformity to chapter* 29, *Laws of* 1886, *March* 16, 1886.)

Power of appointment and removal in appointing officer, etc.— *Rule* 45. Subject only to the qualifications required to be ascertained in accordance with these rules, the power of appointment and the responsibility of selection are in all cases in the appointing officer. The power to remove (existing by law) on the part of any officer is not impaired by anything contained in these rules.

Commission to publish gazette of appointments, promotions, removals, etc.— *Rule* 46. The Commission will cause to be published at such regular periods as it may deem proper, a gazette of all appointments, promotions, resignations, removals and other changes in the civil service, and in case of appointment, may publish the names of the persons certifying the good character of the appointee.

Commission to make regulations, prescribe blanks, etc.—*Rule* 47. The Commission will make appropriate regulations for carrying these rules into effect, and may prescribe blank forms for all applications, certificates, records and returns required under the rules or regulations made in pursuance thereof.

STATE OF NEW YORK, } *ss.*:
OFFICE OF SECRETARY OF STATE, }

I have compared the preceding copy of the rules relating to the civil service with the originals on file in this office, and do hereby certify that the same is correct.

Given under my hand and seal of office of the Secretary of State, at the city of Albany, this twenty-eighth day of June, in the year one thousand eight hundred and ninety-two.

FRANK RICE,
Secretary of State.

CLASSIFICATION OF THE CIVIL SERVICE.

(Approved by the Governor on September 3, 1883. Amended.)

The letters A, B, C, D and E, in parentheses, indicate the schedule under the rules, in which the class, subdivision or grade is included.

Class 1. All clerks and other persons of whatever designation rendering services similar to those of clerks in any branch of the State service, in the following grades:

Subdivision 1. *First Grade* (B). Clerks and like employes receiving an annual compensation of less than $1,000.

Second Grade (B). Clerks and like employes receiving an annual compensation of $1,000 or more, but less than $1,200.

Third Grade (B). Clerks and like employes receiving an annual compensation of $1,200 or more, but less than $1,500.

Fourth Grade (E). Clerks and like employes receiving an annual compensation of $1,500 or more, but less than $1,800.

Fifth Grade (E). Clerks and like employes receiving an annual compensation of $1,800 or more, but less than $2,000.

Sixth Grade (E). Clerks and like employes receiving an annual compensation of $2,000 or more, but less than $2,500.

Seventh Grade (E). Clerks and like employes receiving an annual compensation of $2,500 or more.

Deputies, confidential officers, fiduciary officers, etc. — *Subdivision* 2 (A). In the office of the Secretary of State, the deputy secretary; in the office of the Comptroller, the deputy comptroller, confidential clerk and accountant; in the office of the Treasurer, the deputy treasurer, the chief clerk, the cashier, the bookkeeper, and the pay clerk; in the office of the Attorney-General, the deputies, assistant in New York city, and the confidential clerk; in the office of the State Engineer and Surveyor, the deputy, and resident and division engineers; in the Department of Public Instruction, the deputy, the confidential clerk and stenographer, the financial clerk, and the confidential inspector of school buildings; in the Banking Department, the deputy, the examiners, and the private secretary; in the Insurance Department, the deputy, the chief clerk, the cashier, the chief actuary, four assistant actuaries, the private secretary, the special examiners and the stenographers and typewriters; in the office of the Superintendent of Prisons, the clerk; in the office of the Court of Appeals, the clerk, deputy clerk, reporter, and messenger; in the office of the Inspector-General, the assistant inspector-general, and the chief clerk; in the office of the Commissioner of the Bureau of Statistics of Labor, the chief clerk and six special agents; in the office of the Dairy Commissioner, assistant commissioners, experts and agents, cheese, butter and vinegar experts, cheese instructors and chemists; in the office of the Superintendent of Public Buildings, the superintendent, and cashier and bookkeeper; in the office of the Board of Claims, the clerk and deputy clerk; in the office of the Regents of the University, the secretary, director of examinations, the honorary university examiners, and the medical examiners; in the office of the New York Board of Excise, the secretary, counsel, cashier, and four special detectives; Board of Electrical Control, New York city, the chief engineer, and assistant secretary; secretary and assistant secretary of the State Board of Health, the secretaries of the Railroad Commission, the Board of Charities, the Commission in Lunacy, the Forest Commission, and the New York Civil Service Commission; the chief examiner of the New York Civil Service Commission; chaplains in the State service; treasurers of asylums; game and fish protectors; principals, professors and teachers in normal schools; in the office of the adjutant general, the assistant adjutant-general, the confidential clerk; the State agent for discharged convicts; law assistant, and private stenographer to the surrogate, New York city; the chief clerk of the superior court, court of common pleas, city court, court of general sessions, court of special sessions, surrogate's court, and each district court, New York city; the secretary of the board of police justices; the police clerk of each police court; the clerk and assistant clerk of each district court, New York city, interpreters in courts; confidential clerk in the department of the State Geologist; adjutant in the State Soldiers and Sailors' Home; confidential assistant to Superintendent of Elmira Reformatory.

Professional and expert employments.— *Class* 2 (B). Civil engineers and surveyors; chemists; census enumerators.

Under the Board of Electrical Control, the electrical expert, the inspectors of electrical conductors, the inspectors of underground construction.

Scientific, expert and special employments, etc.— *Class* 2 (C). All persons of special qualifications (except those employed in the salt works, prisons, reformatories, asylums, or other charitable and corrective institutions), including directors or curators of museums, geologists, botanists, and entomologists and their respective assistants, librarians and their assistants, sanitary experts, inspectors of quarantine hospitals, medical superintendent of emigrants, health officers; in the office of the Comptroller, voucher clerk, corporation tax clerk, assistant corporation tax clerk, chief clerk of the bureau of canal affairs, chief tax clerk, land (or first assistant) tax clerk, tax correspondent, special accountant, agent for State lands, auction agent and assistant auction agent and messenger; in the office of the Secretary of State, chief clerk, confidential clerk and stenographer, corporation examiner, assistant corporation examiner, corporation book-keeper, cashier and book-keeper, and two messengers; in the office of the Treasurer, check clerk, and corporation tax clerk; in the office of the Attorney-General, assistant to the second deputy, brief clerk, and messenger; in the office of the State Engineer and Surveyor, chief clerk; in the Department of Public Instruction, law clerk; in the office of the Superintendent of State Prisons, the messenger; in the office of the agent and warden of Sing Sing prison, the stenographer; in the office of the Factory Inspector, the private secretary; in the office of the Commission in Lunacy, the confidential clerk and stenographer; in the office of the Board of Claims, the stenographer; in the office of the General Inspector of Rifle Practice, the clerk; at the Institution for the Blind, Batavia, the musical director; the superintendent of the Creedmoor Rifle Range; in the office of the New York Board of Excise, the law clerk, three application clerks, and inspectors.

Sanitary inspectors, etc.— *Class* 2 (D). Sanitary inspectors appointed or employed under the General Health Act; warden and foresters, Forest Commission.

Class 3. All persons engaged in duties other than those of clerks in the courts and public offices and buildings, and the State arsenals, except as laborers, and not included in the preceding classes.

Court officers.—*Class* 3, *Subdivision* 1 (C). Court criers and attendants; court and other marshals; stenographers of courts; messenger in the office of the Board of Claims; clerks' assistants, court attendants, and stenographers of the police courts, and the attendants, officers and court attendants and stenographers of the district courts; assistant clerks, subpœna clerks, stenographers and attendants of the courts of general and special sessions, court janitors.

Superintendents.—*Class* 3, *Subdivision* 2 (B). Superintendents and assistant superintendents in charge of public buildings under the general superintendent.

Janitors, messengers, court officers, watchmen, etc.—*Class* 3, *Subdivision* 3 (B and D). Office messengers and orderlies in the courts, offices and public buildings; junior clerks; pages; keepers and janitors of public buildings, arsenals, bureaus, etc.; watchmen, firemen, porters and porteresses in public buildings.

Steam engineers, etc.—*Class* 3, *Subdivision* 4 (B and D). Steam engineers and all other persons engaged in expert mechanical duties in public buildings or arsenals.

Class 4, *Subdivisions* 1 *and* 2 (C and B). Obsolete.

Assistant engineers, rodmen, etc.—*Class* 4, *Subdivision* 3 (B), *First Grade.* Rodmen and levelmen.

Second Grade. Assistant engineers below the rank of resident.

Class 4, *Subdivision* 4 (D). Obsolete.

Class 5. All persons employed on the Onondaga Salt Works.

Class 5, *Subdivision* 1 (C). *First Grade.* Engineers, except the chief engineer, overseers of pumps, and supervisors of aqueducts and reservoirs.

Second Grade. Chief engineer.

Class 5, *Subdivision* 2, *First Grade* (C). Assistant inspectors of salt or of barrels.

Second Grade (E). Receivers and inspectors of salt or of barrels.

Third Grade (E). Chief inspector of salt and chief inspector of barrels.

Class 5, *Subdivision* 3 (D). All other persons employed on the Onondaga Salt Works, not otherwise classified.

Prisons, etc.—*Class* 6. All persons employed in prisons and reformatories.

Class 6, *Subdivision* 1 (C). Wardens and agents of prisons; superintendents of reformatories.

Class 6, *Subdivision* 2 (C). Principal matrons, clerks; (B). Physicians.

Class 6, *Subdivision* 3, *First Grade* (B.) Guards in reformatories.

Second Grade (B and E). Keepers in prisons or reformatories receiving an annual compensation of $900 or less.

Third Grade (B and E). Keepers in prisons or reformatories receiving an annual compensation greater than $900, except the principal keeper.

Fourth Grade (E). Principal keepers.

Class 6, *Subdivision* 4 (B). Steam engineers; (D). Prison guards, and all persons employed as expert mechanics in prisons and reformatories.

Class 6, *Subdivision* 5, *First Grade* (B). Teachers in reformatories receiving an annual compensation of less than $500.

Second Grade (E). Teachers receiving an annual compensation of $500 or more, but less than $1,000.

Third Grade (E).. Teachers receiving an annual compensation of $1,000 or more.

Class 6, *Subdivision* 6 (D). All other persons employed in prisons and reformatories, except laborers.

First Grade. Such persons receiving an annual compensation of less than $500.

Second Grade. Such persons receiving an annual compensation of $500 or more.

Hospitals, etc.—*Class* 7. All persons employed in asylums, hospitals and similar institutions, except those included in Class 1, and laborers.

Class 7, *Subdivision* 1 (B). Superintendents of State hospitals.

Class 7, *Subdivision* 2 (C). Superintendents of asylums other than those for the insane.

Class 7, *Subdivision* 3 (B). Assistant physicians and pathologists in State hospitals in the lowest grade in each hospital. First assistant physicians in State hospitals. Female physicians; (B) and E). All assistant physicians and pathologists in State hospitals, except those in the lowest grade.

Class 7, *Subdivision* 4 (C). Physicians other than those in insane asylums.

Class 7, *Subdivision* 5 (C). Stewards of asylums; matrons of asylums.

Class 7, *Subdivision* 6 (D). Engineers and expert mechanics and tradesmen.

Class 7. *Subdivision* 7, *First Grade* (B). Teachers receiving an annual compensation of less than $500.

Second Grade (E). Teachers receiving an annual compensation of $500 or more.

Class 7. *Subdivision* 8, *First Grade* (D). Attendants, nurses and orderlies.

Second Grade (E). Supervisors of asylums and wards.

Class 7. *Subdivision* 9 (D). All other persons employed in asylums, hospitals and similar institutions, and not otherwise classified.

First Grade. All such persons receiving an annual compensation of less than $500.

Second Grade. All such persons receiving an annual compensation of $500 or more.

In the above classification the inclusion of any specified official in any class, subdivision or grade shall not apply to any person acting as or termed as a deputy or assistant of such official, nor to any person acting for or as such official in case of absence, vacancy in office or otherwise.

The term "deputy" or "assistant" is not recognized in this classification. unless such designation is authorized by law.

Where any person receives a compensation rated not by the year, but by the day, week or month, the classification of such person, when dependent upon compensation, will be based upon his or her equivalent annual compensation.

The classes indicate the several grand divisions of the service. The subdivisions are intended to mark the distinct kinds of qualification necessary in each class, and the grades in the subdivisions are designed as steps for advancement by formal promotion.

The omission in the above classification of any official designation or appellation of a position in the service will not exclude such position from the classification, as it will be comprised in the class to which it belongs by the general specification of such class.

GENERAL REGULATIONS.

Chief examiner, duties of.— *General Regulation.* 1. The chief examiner shall, so far as practicable, attend the examinations held by the several boards of examiners for positions in Schedules B and C.

He shall take care to secure accuracy, uniformity and justice in the proceedings of all examiners and boards of examiners under the rules and regulations, and such proceedings and all papers appertaining thereto shall at all times be open to him. He shall also from time to time inspect the proceedings and papers connected with examinations for the civil service of cities held pursuant to the eighth section of the Civil Service Act and shall make report of such inspections to the commission.

General Regulation.— 2. He shall prepare and submit to the commission proper schemes for examinations, and forms for blanks and records.

He shall take care that the rules and regulations are complied with, and shall bring any case of their infraction, or of injustice or irregularity observed by him to the attention of the commission. It shall be his duty from time to time, to confer with the heads of departments, offices and institutions in the State service, concerning the regularity, efficiency and convenience of the examinations for the service under them. He shall perform such other appropriate duties as may be specified in these regulations, or otherwise assigned to him by the commission.

Secretary, duties of.— *General Regulation.* 3. The secretary shall keep the minutes of the proceedings of the commission, and have charge of and be responsible for the safe-keeping of the books, records, papers and other property in its office. He shall make the proper certification of those eligible for appointment or employment in positions in Schedules B and C. He shall generally conduct the correspondence of the commission and perform such other appropriate duties as it may assign to him.

Stenographer, duties of.— *General Regulation.* 4. The stenographer shall perform such appropriate duties as may be assigned to him by the commission, or under its direction by the chief examiner and secretary.

Examiners, Boards of, number of members of, etc. — *General Regulation.* 5. Regular boards of examiners will consist of three members, one of whom shall act as secretary, and two of whom may conduct an examination in the necessary absence of the third. The secretary shall keep a complete record of the proceedings of the board and of all the examinations held by it in such form as the commission may prescribe.

Chief examiner to prepare questions, etc. — *General Regulation.* 6. The chief examiner shall, subject to the commission, issue authority for holding examinations for positions in Schedules B and C, and shall prepare questions and supervise other preliminary arrangements for such examinations.

Examiners to mark papers, etc. — *General Regulation.* 7. The boards of examiners will conduct the examinations and estimate and mark the standing of the persons competing, or in a non-competitive examination shall estimate the qualifications of the person examined, and in both cases shall transmit all the papers with their report to the commission.

Commission will give advice, when. — *General Regulation.* 8. Whenever the special qualifications required for a position are of an expert or professional character, the commission will give to the examining board such advice and assistance from competent sources as may be expedient and available.

Examiners, Schedule D positions, duties of.— *General Regulation.* 9. Boards of examiners for positions in Schedule D shall examine such persons as are named to them in writing by any officer authorized to employ persons in the positions in that schedule, and shall only certify such as satisfy the qualifications for such positions as prescribed by the rules and regulations. They shall report to the commission the names of persons examined by them with other pertinent information, on forms furnished for that purpose, keep on file the minutes of their proceedings, and shall transmit all the papers with their report to the commission. The minutes shall at all times be subject to the inspection of the commission and its agents.

Examiners, special boards of. — *General Regulation.* 10. Special boards will be selected and special regulations for examinations will be issued by the commission in such cases as it may deem expedient.

Examiners must not influence appointments. — *General Regulation.* 11. No examiner or person serving under the commission must attempt to influence the selection, nomination or appointment of any persons for the civil service.

Examiners must preserve order, etc.—*General Regulation.* 12. Care must be taken by examiners to preserve order and decorum at examinations, and to prevent such visitors as they may admit, from obstructing or distracting by conversation or otherwise, those being examined.

Examiners must not disclose results of examinations.—*General Regulation.* 13. Examiners must not disclose for public information, unless by consent of those examined, more than the general results of examinations, without the details of answers given.

Candidates may inspect papers.—*General Regulation.* 14. Any person after receiving official notification of his standing, as ascertained by a competitive examination, may in person, or by duly authorized agent, inspect in the presence of the chief examiner, or the secretary of the commission, his examination papers and the markings thereon.

Complaints of injustice will be considered. *General Regulation.* 15. Complaints which show any injustice or unfairness on the part of any examiner or examining board, or by any one acting under the commission, will be considered by the commission, which reserves the right to revise the marking and grading on the papers, or order a new examination, or otherwise act as substantial justice in the premises may require.

Examination rooms, method of requisition for.—*General Regulation.* 16. For the purpose of examinations, examiners are authorized by the last clause of the third section of the Civil Service Act to request the use of suitable rooms in public buildings and the lighting and the heating of the same. In all cases the requisition for such accommodations should be in writing, reciting the provision of law above referred to, and denoting the amount of room required, and should be addressed to the State, county, city, town or village officer having custody of the public building. School-rooms are generally best adapted for examinations.

Accounts for services, how rendered.—*General Regulation.* 17. Accounts for examiners (who are not otherwise in the civil service) for services and for reimbursement for necessary expenditures should be rendered in the forms prescribed and sent to the commission for approval before payment.

Applications for examinations, how made.—*General Regulation.* 18. Applications for admission to competitive examinations for positions in Schedule B, will be directed to the "N. Y. Civil Service Commission, Albany, N. Y." Blank forms for such applications, and for the requisite certificates, will be furnished upon request, which should specify the position in the service sought by the applicant. All applications for positions in Schedules A, C and D must be made to the head of the department, office or institution wherein the position is sought.

Certain information not to be furnished by commission.—*General Regulation.* 19. The commission cannot advise persons as to vacancies in the service, nor furnish any information as to the duties, salaries, course of promotion, or other conditions of positions, except such as may be found in printed regulations. No advice can be given as to the course of preparation that applicants should follow, nor can specimens of the examination papers be furnished.

Papers to remain on file.—*General Regulation.* 20. All application papers and accompanying certificates will remain on file in the office of the commission, and under no circumstances or conditions will the originals be returned to the applicants.

Competitive examinations, conditions for admission to.—*General Regulation.* 21. Applicants will be admitted to examination upon the production of the official notification to appear for that purpose. Each applicant will receive a number, which will be indorsed upon his notification when produced, and the notifications so indorsed shall be sealed in an envelope; such applicant will sign his examination papers with his number, omitting his name, and the envelope shall not be opened until all the examination papers have been received and the markings and gradings made.

Examinations to be in writing.—*General Regulations.* 22. All examinations shall be in writing, except such as refer to phsical qualities or expertness, excepting that to the written examination the examiner or examiners may add such an oral examination as may be necessary in certain cases to elicit the respective qualifications of the several applicants. When possible a stenographic report of the examination must be made and filed with the papers.

Question sheets to be numbered, how given out, etc.—*General Regulation.* 23. The sheets of questions will be numbered, and will be given out in the order of their numbers, each after the first being given, only when the competitor has returned to the examiners the last sheet given to him. In general, no examination shall extend beyond five hours, without intermission; and no question given out at any session, to any candidate, can be allowed to be answered at another session. Each applicant must complete his examination on the obligatory subjects before taking up any of the optional subjects.

Examiners to exercise diligence, etc.—*General Regulation.* 24. Each examiner will exercise all due diligence to secure fairness, and prevent all collusion and fraud in the examinations.

Examinations, time allowed for.—*General Regulation* 25. The time allowed for completing the examination will be announced before the first paper is given out. For the obligatory subjects the examination should be confined to a single day, but the examiners may extend such time in special cases of emergency.

Marking papers; each examiner to review papers, etc. — *General Regulation.* 26. The examination papers shall be reviewed by each examiner separately, and, in any case of disagreement, the average of the markings made on any question or paper by all shall be the final marking on such question or paper, subject to the regulation as to revision.

Each subject to be marked separately.—*General Regulation.* 27. The papers of all the competitors in each subject shall be examined, compared and marked before the papers in another subject are taken up.

Marking papers, methods of.— *General Regulation.* 28. The marking of each question or subject shall be made on the scale of 100, which maximum shall represent accuracy of the highest possible attainment; and 0 shall represent absolute ignorance. Handwriting will be judged by its legibility, uniform and correct formation of letters and ease of execution. Upon a comparison of the handwriting of all the competitors, the best and worst should be first agreed upon, and the two extremes of the scale thus fixed, the others should be marked relatively to them. In writing from dictation or copying from manuscript, the omission, repetition or substitution of words, the erasures, blots and other evidences of carelessness, will, proportionately to their numbers, reduce the marking below 100. Spelling will be marked with reference to the ratio the misspelt words bear to the whole number of words dictated. Making abstracts or summaries of documents and letter writing will be marked as in handwriting, by agreeing upon the best and worst examples, and having marked them, then proportionately marking the others.

In each of the other subjects, each question shall be marked on the scale of 100, and the sum of such markings divided by the number of questions in that subject shall be the competitor's standing on such subject.

Grading, form of.—*General Regulation.* 29. The absolute or average general standing of each competitor will then be made up in form as follows, in accordance with the respective weight accorded to each subject by the regulations, thus:

EXAMINATION OF ....

SUBJECTS.	Weight given to subjects.	Standing on subjects.	Product of weight and standing.
1. Writing from dictation	3	96	288
2. Copying from manuscript	2	97	194
3. Handwriting	4	85	340
4. Spelling	3	88	264
5. Arithmetic	4	93	372
6. Geography and history	1	80	80
7. Constitutional questions	1	63	63
8. Making a summary	2	72	144
Total products	....	....	1,745
Divide by sum of weights	20	....	....
General average standing	....	....	87.28
OPTIONAL SUBJECTS.			
Bookkeeping			80
Stenography			92

It will be observed that the standing on each subject is multiplied by the weight given that subject and the product placed in the third column, and the sum of these products, divided by the sum of the weights, gives the general average standing.

If, in the marking, it is found that the standing of a competitor on any subject falls below fifty, the further marking of the papers of such competitor may be dropped (Rule 15), and such fact recorded on the face of the paper in red ink.

Names to be enrolled in order of excellence.—*General Regulation.* 30. The grading of the several competitors being completed, their names will be enrolled in the order of their excellence, as determined by such examination, upon a register of eligible persons in form as prescribed by the commission.

Papers to be signed by examiners.—*General Regulation.* 31. Every paper in any examination, not formally certified by the examiners, will be signed with his initials in ink by each examiner who has reviewed and marked it.

Priority of date to give no advantage on eligible list.—*General Regulation.* 32. Priority of date in examination will give no advantage in position on the eligible list. The names of the three persons highest in general average standing on the list for any grade will be certified for selection without regard to dates of examination, and subject only to the preferences of competitors on record for certain departments or offices, or to the certificate of the appointing officer, that an optional subject is of prime importance.

Boards of examiners, Schedule C positions, duties of.—*General Regulation.* 33. The boards of examiners before whom shall appear any person named for a position in Schedule C, subject to a non-competitive examination, will report to the commission the facts regarding such person furnished to or ascertained by them, upon the first three points, as required by Rule 23. Upon the fourth point, as required in said rule, they will examine the person so appearing in the several subjects prescribed by regulations in accordance with Rule 24. Such examination will be in writing, and the standing on each subject will be marked in the manner herein directed for competitive examinations.

The grading of such person, together with the examination papers and the report on the other points of inquiry, shall be transmitted to the commission as soon after the examination as practicable.

Boards of examiners, Schedule D positions, duties of.—*General Regulation.* 34. The boards of examiners for positions in Schedule D shall take evidence of the qualifications of persons properly appearing before them, as the same are defined in Rule 29, and regulations pursuant thereto. So far as may be practicable, such examinations shall be in writing. If the board is satisfied that any person so appearing is duly qualified to discharge the duties of the position for which named, a certificate of qualification will be granted by the board in such form as the commission may prescribe. Officers having the authority to employ persons in the positions included in Schedule D may directly name persons to any such board for examination. Quarterly reports on the first days of January, April, July and October in every year will be made by such boards to the commission, giving names of all persons examined, the positions for which named, and whether or not certified as qualified. Intermediate reports of a similar nature will be made when specially required.

Promotion, examinations for, methods of.— *General Regulation.* 35. Examiners will carefully inspect the work performed during the previous year by the persons named for promotion as regards its accuracy and neatness, and should personally question them concerning their office work and its purposes, in order to ascertain if they have a general and intelligent knowledge of the business in the department where they are employed. No part of the exaimnation need be by written answers to written questions, but the examiners may require the persons examined to give a written description of the work done by them and its relation to the duties of others.

Candidates to be notified, certain inquiries not to be answered.— *General Regulation.* 36. As soon as practicable after an examination, the papers of the candidates will be marked, and their standing ascertained and communicated to them by the secretary of the commission by mail. Prior to that time no inquiries addressed either to the examiners or the commission will be answered. No letters explanatory of errors presumed to have been made in an examination will receive any attention.

Certain questions not to be decided by commission.— *General Regulation.* 37. The commission can not undertake to answer inquiries relating to cases which are not officially before it for decision, nor can it decide, except in cases of actual candidates on its registers, questions respecting the application of the rules and regulations.

Certain inquiries not to be answered.— *General Regulaton.* 38. Particular answers can not be given to inquiries which are answered expressly or by implication in published regulations and similar documents.

Excise inspectors, persons not eligible for.— *General Regulation.* 39. Applicants will not be eligible for examination for appointment as inspectors in the excise department who have been engaged in the saloon business or in the sale of liquor within two years.

Schedule C and D positions, information regarding, to be published.— *General Regvlation.* 40. The schemes of qualifications and subjects of examination of the same for positions in Schedules C and D will be published from time to time for general information.

In regard to many such positions, the nature and extent of such examinations will not be determined until after a vacancy in the position occurs.

No information can, therefore, be given in regard to such positions other than is published as above mentioned.

REGISTER OF QUALIFICATIONS, SCHEMES FOR EXAMINATIONS, AND LIMITS OF AGE.

SCHEDULE B.

Under the provisions of Civil Service Rule 14, the following schemes have been prepared for the several grades and subdivisions in Schedule B:

Clerkships.

First, second and third grades.— Salaries less than $1,500 per annum. Included in these clerkships are positions as copyists, bookkeepers and others.

Age not less than 21 nor more than 50 years at the time of application.*

	Relative weights.
1. Writing from dictation..	3
2. Copying from manuscript	3
3. Handwriting	3
4. Spelling	2
5. Arithmetic, viz.: Examples in fractions, reduction of weights and measures and percentage	4
6. Geography, History and Constitution of New York and the United States	3
7. Letter-writing	2
Total	20

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* Limitation of age does not apply, in any of the classes or grades, to persons honorably discharged from the military or naval service of the United States.

In addition there may be an oral examination and specific questions to test fitness for certain positions.

Optional subjects.— Expert penmanship, bookkeeping, foreign languages.

Special qualifications for any department of the Civil Service specified by the applicant. If for any reason it is impracticable to examine applicants in any optional subject at the time the competitive examination is held, such examination may be held at some later day.

Junior clerks.*— Salaries not to exceed $720 per annum. Limits of age 17 and 21 years.

	Relative weights.
1. Writing from dictation	2
2. Copying from manuscript	2
3. Handwriting	4
4. Spelling	2
5. Arithmetic	3
6. Algebra	2
7. Physiology	2
8. Geography, History and Constitution of New York and United States	3
Total	20

Stenographers and typewriters.— Age not less than 18 nor more than 50 years at the time of application.

	Relative weights.
1. Dictation	1
2. Handwriting	1
3. Spelling	1
4. Copying manuscript	1
5. Typewriting	2
6. Accuracy in taking notes of dictated matter at the rate of not less than 100 words per minute	4
Total	10

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* Eligible for appointment in the office of the Regents of the University.

*EXAMINERS, REGENTS OF THE UNIVERSITY.

Applicants must, be over 21 years of age.

Higher English.—English Composition, Rhetoric, English Literature.

Latin.—Cæsar's Commentaries, Cicero's Orations, Virgil's Æneid and Latin Composition.

Greek.—Xenophon's Anabasis, Homer's Iliad, Greek Composition.

Mathematics.—Arithmetic, Algebra, Geometry and Plane Trigometry.

Special subjects.—Astronomy, Physics, Chemistry, Geology, Botany, Zoology and Drawing.

STATE HOSPITALS.

Junior assistant and female physicians.—Applicants must be graduates of a legally incorporated medical college. They must be not less than 21 years of age and must have had one year's experience in a hospital, or three years' experience in the general practice of medicine.

Promotions.—Promotions may be made between the grades of junior and first assistant physicians.

First assistant physician.—Applicants must be graduates of a legally incorporated medical college. They must be not less than 25 years of age, and must have had three years' actual experience in a hospital for the insane.

Superintendent.—Applicants must be graduates of a legally incorporated medical college, and not less than 30 years of age, and must have had five years' actual experience as a physician in a hospital for the insane. Having passed the required examination, candidates will be eligible for appointment for three years.

Apothecaries.—Applicants must have a license from the State Board of Pharmacy. Limits of age, 21 and 50 years.

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*The work of appointees consists in marking the papers of pupils who have taken the Regents' examinations, held in the various high schools and academies.

Messengers.—Limits of age for messengers are 18 and 50 years.

	Relative weights.
1. Writing from dictation	1
2. Handwriting	2
3. Spelling	1
4. Arithmetic, viz.: Examples in addition, subtraction, multiplication and division	2
5. Writing from memory the substance of a verbal order	1
6. An oral examination from which will be marked experience, general intelligence and ability to execute orders,	3
Total	10

Reformatory guards.—Applicants must be not less than five feet nine inches in height when unshod, and before being admitted to the service they must pass a thorough physical examination by the prison physician. They need not be residents of the State. Limits of age, 21 and 50 years.

	Relative weights.
1. Writing from dictation	1
2. Handwriting	2
3. Spelling	1
4. Arithmetic (examples in numeration, addition, subtraction, multiplication and division)	2
5. Writing from memory the substance of a verbal order	1
6. An oral examination from which will be marked experience, general intelligence and ability to execute orders,	3
Total	10

Teachers.— The limits of age are for male teachers, 21 and 45 years, and for female teachers, 18 and 40 years, at date of application. The schemes of examination will be varied to meet the special requirements of the respective institutions, and so far as practicable will be based on examinations for teachers' certificates in the public schools.

Writing from dictation; handwriting; spelling; methods and school economy; arithmetic, including fractions, percentage and proportion; geography; grammar; physiology and hygiene; American history; civil government.

ENGINEERING POSITIONS.

Limits of age, 21 and 50 years.

Assistant engineers.—1. Arithmetic; 2. Geometry; 3. Applied or practical geometry; 4. Plane trigonometry; 5. Mensuration; 6. Use of instruments; 7. Mechanics; 8. Practical construction.

Levelers.—1. Arithmetic: 2. Plane trigonometry; 3. Mensuration; 4. Use and adjustment of instruments; 5. Tabulation of field notes; 6. Making profile draughts; 7. Practical construction.

Rodmen.—1. Arithmetic; 2. Plane trigonometry; 3. Mensuration; 4. Use of leveling rod.

SCHEDULE C.

In positions in this schedule, where the duties are professional, technical or expert, the nominees or candidates will be required to show what preliminary training or technical education they have undergone to qualify them for such situations before they can be admitted to examination. Minimum limit of age, 21 years.

	Relative weights.
Stenographers in courts.—1. Accuracy in taking notes of spoken or dictated matter at the rate of at least 150 words per minute	3
2. Correctness in transcribing such notes, regard being had to spelling and penmanship	4
3. Accuracy in the immediate rendering of spoken or dictated matter, which they will be required to take down and read immediately	3
Total	10

Court attendants and janitors will be examined same as messengers, as above.

Clerks in courts.—Clerks whose functions are more or less judicial or discretionary. Candidates for the positions in this class will be examined with a view to ascertaining their knowledge of the jurisdiction of the court for a position in which they apply, and their knowledge of the practice of the law pertaining to the special duties which they may be called upon to perform.

	Relative weights.
1. The practice of the law relative to the particular duties which they may be required to perform	5
2. Questions relating to the jurisdiction of the court for a position in which they apply	3
3. Writing from dictation	2
4. Copying from manuscript	2
5. Handwriting	3
6. Spelling	2
7. Arithmetic (fundamental rules, fractions, reduction and interest)	3
Total	20

Other positions in Schedule C.— The examinations for other positions in Schedule C will vary greatly, according to the specific character of the duties which the several officers are to be called upon to perform. They must be certified to be free from any defect or disease likely to interfere with the proper discharge of duty.

SCHEDULE D.

The character of the examination in Schedule D will be governed by the nature of the employment which those nominated are respectively called upon to enter. Such candidates will, in all cases, be required to write from dictation at least one-half page of foolscap, and add, subtract, multiply and divide simple numbers. In addition to such written examination candidates will be required to show such practical knowledge of the duties of the position for which they have been nominated as will satisfy the examiners that they possess the requisite qualifications.

SCHEDULE E.

Promotion examinations will be held from time to time as request for the same shall be made by those having the power of appointment. Promotion will be based in all cases upon the positive merit of the person promoted, and upon his previous service, shown by the comparative records of the office or institution in which he has been employed, and upon the certificate of his immediate official superior that his efficiency and conduct during his past service has been in all respects satisfactory and entitle him to a favorable consideration. The form of the examination will be varied as the necessities of the case may require.

INSTRUCTIONS TO EXAMINERS.

In order that the proceedings at all places may be uniform, the following instructions are given for the guidance of those selected by the commission as examiners to conduct the competitive examinations for the State service:

General instructions. — 1. All necessary arrangements for the examination-room and its proper furniture should be completed prior to the date of examination. Reference is made to the last clause of section 3 of the Civil Service Act, wherein permission is granted to use certain public buildings. The desks should be arranged so that competitors cannot communicate with each other or copy each other's papers without observation. There should be at least twenty-five square feet of table for use of the examiners, and this should be so placed that supervision may be had of every desk. Prior to the examination, each desk should be provided with a stand supplied with ink, pen-holders, pens and blotting pad. It will be of great advantage to secure the services of a competent and trustworthy person to receive the candidates at the examination-room, who might also assist the examiners during the day, particularly in distributing the papers to candidates. The attention of all concerned is respectfully invited to the fifth section of the Civil Service Act, which makes penal certain offenses.

Examination questions, stationery, etc. — 2. The questions in sealed envelopes will be sent by mail or express from the office of the commission so as to reach each place of examination at least twenty-four hours before the date of examination, and should be deposited with seals intact, in some secure place. An accompanying package will contain the stationery, envelopes and desk-cards.

Instructions regarding the admission of candidates to examinations.—3. Each notified applicant must present as a warrant for his appearance the official notification signed by the secretary of the commission, and no one should be admitted to the examination who does not present such notification. Each applicant should be given an envelope and a desk-card. After indorsing upon his notification the number of his card, he will put the notification in the envelope, seal it and return it to the examiners. The applicant, retaining the card, will then be admitted to the examination as an accepted candidate. No applicant presenting himself after 10 o'clock A. M., should be admitted, since his admission after that hour would derange the proceedings.

Candidates to be separated into groups, etc.—4. One of the examiners should request the candidates to separate themselves into as many groups as there may be different forms of examination; as, for example: One to contain all candidates for positions of office messenger; the second to contain all candidates for clerkships; the third to contain all candidates for positions of stenographers, etc.

Commencement of examination.—All being properly seated, the examiners should break the seals and open the package of examination papers, which will be found in separate parcels, one containing questions, for clerkships; and one for messengers, and the third for stenographers, etc.; and a fourth marked "optional," containing questions on optional subjects which parcel should not then be opened. The papers from the several parcels should be kept separate. Each will be found to contain several sets of questions, numbered from one upwards, in each series.

Writing from dictation.—6. The paper from each series, viz., "Writing from dictation," will be distributed to each candidate in the respective groups. The selection should be read once, without pause. It should then be dictated, slowly, and one phrase at a time, so that it may be fairly copied, and to avoid, if possible, a repetition which is apt to confuse the writers. Great care should be taken to read deliberately, with distinct utterance, until the whole has been read.

Verbal order; copying from manuscript.—7. The exercise in dictation is the only one in which all the groups join in unison, and after its completion all the papers will be taken up. The second paper in each series will then be given out to the candidates in the respectlve groups, and thenceforward to successive papers in numerical order, but only one at a time. In the package marked "messengers" will be found printed a "verbal order" which, after securing their attention is to be read slowly and distinctly, and *once only*, to the candidates for positions of messenger, etc. The reading of this "order" should take place immediately after the exercise of dictation, so that the other groups may not be disturbed in their work. Each candidate, when he completes a paper, is to be furnished with the next one, without regard to the progress of others in the group. The completed papers are to be taken up before the next are given out. In distributing the paper, viz., "Copying from manuscript," to the candidates for clerkships, one of the lithographed drafts will be given as the matter to be copied.

No information or aid to be given candidates.—8. Only general explanation should be given to candidates, and this should be limited to methods of procedure. No information or aid in solving questions should be permitted from any source, and vigilance should be exercised to prevent the use of any book or manuscript for such purpose, or copying from the papers of another candidate. No candidate should be allowed to leave the room while engaged upon a paper. One examiner should always be present in the examination-room.

Examiners to preserve order, etc.—9. The examiners will preserve order and decorum, and no conversation or unusual noise by the candidates should be permitted. They should not allow any visitors admitted by them to distract the attention of the candidates. The natural nervousness of candidates under examination is apt to be increased by the consciousness that they are observed, or their work scrutinized by those not officially in charge. Visitors should not be permitted to inspect the answers of candidates. Special care should be taken that nothing regarding the work of the candidates is procured for publication. The examiners hold all the papers in trust for the commission.

Desk-cards to be returned.—10. If a candidate declines to complete all the papers and withdraws from the examination, he must deliver to the examiners his desk-card, on which the time of his withdrawal should be marked. Also, as each candidate completes all the papers he will deliver his desk-card, on which the time of completion should be marked. All these desk-cards will be retained by the examiners.

Optional examinations.—11. Each candidate will inform the examiners what optional subjects, if any, he has previously requested to be examined in, and they will name a time and place for him to appear for such purpose, unless it is found convenient to complete the examination at that time.

Time allowed for examination.—12. The time occupied in the examination on obligatory subjects must not exceed seven hours. If this space be reckoned from the distribution of the first paper, with an allowance of twenty minutes for luncheon, the close of the examination would be 5.30 P. M. Should there occur an accidental delay in opening proceedings, or their suspension through any unforeseen cause, the examiners, in accordance with the twenty-fifth general regulation, will see that the full period of seven hours is allowed, but in no case should such allowance of seven hours be exceeded. Ten minutes before the time of closing the examination, notice of such closing should be given to the candidates, and at the close all papers finished and unfinished will be taken up.

Optional subjects.—13. While it is presumed that only a small number of candidates will desire to be examined in optional subjects, the interest of the public service will be subserved by giving full opportunity to all who desire such privilege. The examination on these subjects being comparatively brief, it may be held on the evening of the day of the general examination, or the next day.

A special package of papers, for examination on such of the optional subjects as could be prepared in advance, will accompany the other papers.

Expert penmanship.— This is an accomplishment of prime importance in some positions and of great value in all of them. The candidate will copy such paper as the examiners may select, and may also exhibit his skill in pen-writing and other styles useful or ornamental in engrossing, copying, recording, preparing tabulated statements, etc. The time occupied will be denoted on the paper by the examiners.

Special qualification for any department of the public service. The candidate will give in writing the details of the special experience or training which he claims would be valuable in the service. If such proficiency is capable of a practical test, such as facility in adding correctly and rapidly long columns of figures, or in casting interest, or in making general averages, the examiners may test such qualifications and certify their estimate of the same to the Commission.

Care must be taken that all such papers are, for the purpose of identification, marked with the candidate's desk number, as on the papers for obligatory subjects.

Marking and grading. — In addition to the instructions given in General Regulations 26 to 32, special directions as to marking and grading will be given to examiners when deemed necessary by the Commission.

At the conclusion of the examination the examiners (other than the general board at Albany) will carefully pack all the papers and forward them by express to

THE N. Y. CIVIL SERVICE COMMISSION,
Albany, N. Y.

SPECIAL REGULATIONS FOR GUIDANCE OF APPLICANTS.

As provided by Civil Service Rule 9, the following special regulations are issued for the guidance of applicants who may appear as candidates in the competitive examinations for the State service.

Applicants must appear promptly. — 1. Applicants must present themselves punctually at the times and places specified in their official notifications. No one will be admitted except upon the production of such notification signed by the secretary of the commission.

General instructions. — 2. Each applicant will be presented with an envelope and a card inscribed with a number, and he will *retain this card* and indorse plainly the same number on his notification and *place the notification* in the envelope, seal it and return it to the person in attendance, and will then be admitted as an accepted candidate. The number on the card is known as the "desk number," *and such number and the name of the city where the examination is held must be put at the top of every paper used by the candidate in the examination.* This number is necessary as a means of identifying the papers with the name of the candidate when the envelope is opened. *The name of the candidate must not appear on any examination paper.* The desk number is so important that the attention of each applicant is particularly directed to the necessity of a correct and plain indorsement of the number on the notification before it is put in the envelope and sealed.

Examiners, authority of.— 3. The examination will be in charge of examiners appointed by the Civil Service Commission, who will decide all matters and preserve order. They must be obeyed in all respects and are authorized to expel any one guilty of unseemly or disrespectful conduct.

Applicants to be separated, etc.— 4. The proceedings will begin by the separation of the candidates into groups, one of applicants for positions of messengers, one for clerkships, etc. Each group will be seated by itself.

Stationery furnished.— 5. Candidates will be furnished with paper, pens and ink, but those who are accustomed to use any particular pen are advised to bring it with them. Pencils must not be used, and all the writing and figures must be in ink.

Regarding the writing of answers, etc.— 6. Foolscap paper is given each candidate for experimental calculations, but in solving the arithmetical problems the entire process must be given. A simple answer, without such process, will not receive a maximum mark, even if correct. It is for the interest of the candidates that the full operation be thus shown, since the examiners may thus detect any errors occurring through inadvertence, which might otherwise be attributed to ignorance of methods.

Candidates not to leave, when.— 7. No candidate can be allowed to leave the examination-room until he has completed the paper on which he is engaged. No changes or corrections in papers can be made after they are given to the examiner.

Conversation, etc., not allowed.—8. No conversation, disturbing noise or actions will be allowed. Whenever a candidate has completed a paper, and wishes the next one or desires an explanation, he will hold up his hand and one of the examiners or their attendant will visit the desk.

Books or manuscripts not allowed.—9. Candidates are warned not to bring with them for consultation any books or manuscripts; any use of such assistance, either in the examination-room or elsewhere during the examination, will be considered such a violation of the regulations as may lead to the rejection of the offender's papers.

Penalty for copying from another paper.—10. The same penalty will be incurred by any candidate who copies from the paper of another or permits his own paper to be copied, or who receives or gives assistance of any kind, or who writes upon his papers any irrelevant or disrespectful remarks.

Candidates advised to bring luncheons.—11. Candidates are recommended to bring their luncheons with them and to eat them in the examination-room. For the convenience of those coming from a distance, it is desirable to complete the examination in a single day, and the time consumed in going out for a meal would seriously abridge a candidate's available time for work.

Time allowed, etc.—12. The time allowed for the obligatory examination is seven hours with an additional allowance of twenty minutes for luncheon. This time cannot be extended, but the examiners will not include any general delay, interruption or suspension of proceedings through accidental cause. In this connection candidates are advised, as a precautionary measure, to carefully study the scheme of examination, in order to make an approximate allowance of time for each subject. The seven hours is ample for the longest task, *i. e.*, the clerkship scheme, *but candidates are often apt to waste so much time in reviewing and recasting their work, and generally without advantage*, that they are hurried in the latter subjects, and so often do themselves an injustice which cannot be repaired.

Schemes should be studied.—13. In order that applicants may have a clear understanding of the scope of the examinations for the several positions open for competition, their attention is directed to the published schemes for examinations. By a careful study of these each applicant can estimate the amount of time he can allow for the respective subjects, and so not be hurried in any of them.

Honest work without worry advised.—Finally, all candidates are advised that earnest and determined endeavor to honestly do the best, without worry or undue anxiety, will produce the highest possible result. The ordeal of these examinations, except in their necessary confinement, is not exacting or in any way difficult to those who have availed themselves of the free education the State offers to all.

APPENDIX B.

Statistical Tables of Examinations.

APPENDIX B.

STATISTICAL TABLES OF EXAMINATIONS.

EXAMINATIONS, SCHEDULE B — 1892.

	Qualified.	Not qualified.
Examined for general clerkships	52	13
Examined for junior clerks	7	11
Examined for messengers	8	......
Examined for superintendents, State hospitals	2	......
Examined for first assistant physicians, State hospitals	1	......
Examined for junior assistant physicians, State hospitals	11	8
Examined for female physicians, State hospitals	3	3
Examined for apothecaries, State hospitals	2	2
Examined for assistant engineers	4	3
Examined for levelers	10	1
Examined for rodmen	11	7
Examined for book-keepers	9	2
Examined for school secretary, Elmira Reformatory	1	1
Examined for examiners, Regents of the University	6	4
Examined for college assistants, Regents of the University	10	5
Examined for pages	20	5
Examined for steward's clerk, State Hospital, Ogdensburg	4	1
Examined for teachers, State Industrial School, Rochester	19	9
Examined for teachers, Institution for the Blind, Batavia	28	5
Examined for stenographers and typewriters	19	11

	Qualified.	Not qualified.
Examined for stenographers, New York Board of Excise	7	5
Examined for court janitors	19	5
Examined for guards, Elmira Reformatory	27	11
Totals	280	112

EXAMINATIONS, SCHEDULE C — 1892.

	Qualified.	Not qualified.
Brief clerk, office Attorney-General	1	......
Assistant to second deputy Attorney-General	1	......
Private secretary, Factory Inspector	1	......
Voucher clerk, office of Comptroller	1	......
Law clerk, department of public instruction	1	......
Assistant librarians	5	......
Steward, Asylum for Feeble-Minded Children	1	......
Physician, Institution for the Blind, Batavia	1	......
Corporation book-keeper, office of Secretary of State	1	......
Inspectors, New York Board of Excise	2	1
Assistant clerks, courts, New York city	8	......
Stenographers, courts, New York city	7	1
Attendants, courts, New York city	31	1
Janitors, courts, New York city	3	......
Health officers, local	21	2
Chief clerk, Engineer and Surveyor	1	......
Totals	86	5

EXAMINATIONS, SCHEDULE D — 1892.

	Qualified.	Not qualified.
Asylum for Insane Criminals, Matteawan:		
Attendants	37	......
Miscellaneous	2	......
Asylum for Feeble-Minded Children, Syracuse:		
Attendants	6	......
Miscellaneous	3	......

	Qualified.	Not qualified.
Custodial Asylum for Women, Newark:		
Attendants	9	......
Elmira Reformatory:		
Foremen	3	......
Experts	11	......
Forest Commission:		
Warden	1	......
Hospital, State, Binghamton:		
Attendants	101	......
Miscellaneous	10	......
Hospital, State, Buffalo:		
Attendants	35	......
Miscellaneous	1	......
Hospital, State Homœopathic, Middletown:		
Attendants	199	6
Engineer	1	......
Hospital, St. Lawrence State, Ogdensburg:		
Attendants	60	3
Nurses	14	......
Hospital, Hudson River State, Poughkeepsie:		
Attendants	208	3
Miscellaneous	16	......
Hospital, State, Rochester:		
Attendants	18	1
Hospital, State, Utica:		
Attendants	25	......
Nurses	34	......
Miscellaneous	12	......
Hospital, State, Willard:		
Attendants	158	......
Housekeeper	1	......

	Qualified.	Not qualified.
House of Refuge for Women, Hudson:		
Supervisors	18	......
Industrial School, Rochester:		
Attendants	3	......
Housekeepers	4	......
Overseers	4	1
Miscellaneous	10	1
Totals	1,004	15

GENERAL SUMMARY OF EXAMINATIONS HELD DURING THE YEAR 1892.

	Number examined.	Qualified.	Not qualified.
Competitive examinations	392	280	112
Non-competitive examinations (Schedule C)	91	86	5
Non-competitive examinations (Schedule D)	1,019	1,004	15
Totals	1,502	1,370	132

COMPETITIVE EXAMINATIONS.

The following table shows the number of persons who have entered competitive examinations each year since the organization of the Commission, the positions for which they were examined, and the number who passed and failed:

	NUMBER EXAMINED.									Totals.
	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	
Apothecaries	......	......	......	......	......	......	......	5	4	9
Assistant engineers, levelers and rodmen	......	......	28	31	17	......	21	......	36	133
Bookkeepers	......	......	......	3	......	......	5	......	11	19
Clerks	143	103	84	127	112	43	78	49	70	809
Clerks, junior	......	......	......	......	......	......	......	86	18	104
Collectors of canal statistics	......	......	......	6	......	......	......	......	......	6
College assistants, Regents of the University	......	......	......	......	......	......	......	......	15	15
Examiners, Regents of the University	......	......	6	25	......	15	6	40	10	102
Experts and inspectors, Board of Electrical Control	......	......	......	......	42	......	16	......	......	58
Female assistant physicians, State hospitals	......	3	......	......	......	......	......	8	6	17
First assistant physicians, State hospitals	......	......	......	......	......	......	......	4	1	5
Guards, prison and reformatory	43	56	55	161	129	24	37	25	38	568
Inspectors of masonry	......	......	9	......	......	......	......	......	......	9
Interpreters, court	......	......	11	......	16	11	4	......	......	42
Janitors, court	......	......	3	......	16	6	......	......	24	49
Junior assistant physicians, State hospitals	......	......	......	......	......	4	......	23	19	46
Messengers	8	16	10	18	8	19	......	......	8	87
Orderlies	42	......	......	......	......	......	......	......	......	42
Pages, Regents of the University	......	......	......	......	......	104	26	......	25	155
Physicians, Auburn prison	......	......	3	......	......	......	......	......	......	3
Proofreaders	......	......	......	4	......	......	......	......	......	4
School secretary, Elmira reformatory	......	......	......	......	......	......	......	......	2	2
Stenographers and typewriters	......	6	......	......	9	21	44	71	42	193
Stewards, State hospitals	......	20	......	......	......	......	......	......	......	20
Superintendents, State hospitals	......	......	......	......	......	......	......	6	2	8
Teachers	......	21	......	9	......	27	48	24	61	190
Totals	236	225	209	384	349	2,4	285	341	392	2,695
Number passed	170	142	168	254	247	199	174	210	280	1,844
Number failed	66	83	41	130	102	75	111	131	112	851

NON-COMPETITIVE EXAMINATIONS.

The following show the number of persons who have entered non-competitive examinations during the past seven years, and the number who passed and failed:

Schedule C.

	1886.	1887.	1888	1889.	1890.	1891.	1892.	Totals.
Number examined...........	167	99	107	133	88	352	91	1,037
Number passed..............	157	73	102	116	81	341	86	956
Number failed...............	10	26	5	17	7	11	5	81

Schedule D.

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	Totals
Number examined...........	345	615	474	536	626	734	1,019	4,349
Number passed..............	327	583	470	509	606	722	1,004	4,221
Number failed...............	18	32	4	27	20	12	15	128

GENERAL SUMMARY FOR SEVEN YEARS.

The following table shows the total number of persons examined in competitive and non-competitive schedules during the past seven years, and the number who passed and failed:

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	Totals.
Number examined...........	721	1,098	930	943	999	1,427	1,502	7,620
Number passed..............	652	910	819	824	861	1,273	1,370	6,709
Number failed...............	69	188	111	119	138	154	132	911

COMPETITIVE APPOINTMENTS FOR EIGHT YEARS.

The following shows the number and character of appointments to competitive positions during the past eight years:

	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	Totals.
Apothecaries	......	......	......	......	......	......	2	1	3
Assistant engineers, levelers and rodmen	......	5	14	1	......	5	......	6	31
Bookkeepers	......	......	......	1	......	1	......	3	5
Clerks	......	9	3	7	5	11	2	......	37
Clerks, junior	......	......	......	......	......	......	13	20	33
Clerks. temporary	11	......	1	......	......	1	......	2	15
College assistants, Regents of the University	......	......	....	......	......	......	......	3	3
Examiners, Regents of the University	......	3	3	5	3	1	22	4	41
Experts and inspectors, board of electrical control	......	......	......	9	......	......	......	......	9
Female assistant physicians, State hospitals	1	......	......	......	......	......	3	1	5
First assistant physicians, State hospitals	1	......	......	......	......	......	2	1	4
Guards, prison and reformatory	4	27	34	39	21	14	7	28	174
Inspectors of masonry	......	7	......	......	......	......	......	......	7
Interpreters, court	......	1	1	4	2	1	......	......	9
Janitors, court	......	......	......	5	......	......	......	......	5
Junior assistant physicians, State hospitals	......	......	......	......	......	......	3	6	9
Messengers	1	1	......	1	1	......	......	......	4
Pages, Regents of the University	......	......	......	......	4	4	2	8	18
Physician, Auburn prison	......	1	......	......	......	......	......	......	1
School secretary, Elmira Reformatory	......	......	......	......	......	......	......	1	1
Stenographers and typewriters	......	2	......	7	1	9	7	8	34
Steward, Hudson River State Hospital	1	......	......	......	......	......	......	......	1
Superintendent, State hospitals	......	......	......	......	......	......	......	1	1
Teachers	3	1	2	......	10	15	8	8	47
Totals	22	57	58	79	47	62	71	101	497

TOTAL NUMBER OF APPOINTMENTS FOR EIGHT YEARS.

	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	Totals.
After competitive examinations	22	57	58	79	47	62	71	101	497
After non-competitive examinations, schedule C	314	136	99	107	116	81	361	86	1,300
After non-competitive examinations, schedule D	223	345	615	474	506	606	699	1,004	4,472
Totals	559	538	772	660	669	749	1,131	1,191	6,269

APPENDIX C.

1. ORGANIZATION OF COMMISSION, EXAMINING BOARDS, ETC.
2. LISTS OF APPOINTMENTS.
3. LIST OF DEATHS AND PROMOTIONS IN, AND REMOVALS AND RESIGNATIONS FROM, THE PUBLIC SERVICE, REPORTED SINCE THE LAST ANNUAL REPORT.
4. CHANGES IN CLASSIFICATION.
5. ACTION OF COMMISSION SINCE LAST ANNUAL REPORT AFFECTING LOCAL REGULATIONS OF CITIES.

APPENDIX C.

Organization of the New York Civil Service Commission and the several boards of examiners appointed by and acting under it.

NEW YORK CIVIL SERVICE COMMISSION.

Commissioners.— Alexander C. Eustace, Elmira; E. Prentice Bailey, Utica; Willard D. McKinstry, Watertown.

Officers, etc.— President, Alexander C. Eustace; chief examiner, John B. Riley; secretary, Clarence B. Angle; clerk, John C. Birdseye.

General office in Capitol, Albany.

BOARDS OF EXAMINERS.

Albany, General Board at, for Clerical Positions.— Melvil Dewey, chairman; Charles W. Cole, P. H. McQuade, Willis E. Merriman, C. Mortimer Odell.

Auburn.— John D. Teller, chairman; Orlando Lewis, Joseph P. Cleveling, M. D.

Auburn Prison.— Conant Sawyer, M. D., chairman; Orlando Lewis, Henry D. Brewster.

Batavia.— John H. Ward, chairman; Carlos A. Hulls, Horace H. Hutchins, M. D.

Batavia, Institution for the Blind at.— Daniel W. Tomlinson, chairman; Frank M. Jameson, Sara Whalen.

Binghamton, State Hospital at.— Charles C. Eastman, M. D., chairman; Edwin Evans, Jennie Wilbur.

Brooklyn, Courts in.— Sidney Williams, chairman; John L. Devenny, Peter F. Lynan, secretary.

Buffalo.— Henry A. Richmond, chairman; Gibson T. Williams, William H. Gratwick, jr.

Buffalo, State Hospital at.— Arthur W. Hurd, M. D., chairman; Herman Matzinger, M. D., Percy Bryant, M. D.

Clinton Prison.— James Moon, chairman; Julius B. Ransom, M. D., John P. Nash.

Elmira.— James R. Monks, chairman; Parley Coburn, Casper S. Decker.

Elmira Reformatory.— James C. Van Etten, chairman; Oscar Hoppe, Henry F. Bush.

Engineering positions.— Horace Andrews, chairman; John J. O'Hara, David M. Green.

Health officers, local.— Lansing B. Winne, M. D., chairman; Julius B. Southworth, M. D., George G. Lempe, M. D.

Hospitals, State, General Board for positions in.— Samuel B. Ward, M. D., chairman; Albert Vanderveer, M. D., Charles F. Jones, M. D., Clarkson C. Schuyler, M. D.

Hudson, House of Refuge at.— Albert Hoysradt, chairman; Crawford E. Fritts, M. D., Samuel R. Rainey, secretary.

Law clerks.— Matthew Hale, chairman; Edwin Countryman.

Matteawan, Asylum for Insane Criminals at.— J. Elvin Courtney, M. D., chairman; Robert B. Lamb, M. D., James F. Howell, secretary.

Middletown, State Hospital at.— George Allen, M. D., chairman; John Cochren, C. Spencer Kinney, M. D., secretary.

Newark, Custodial Asylum for Women at.— Edwin K. Burnham, chairman; Kate R. Willett, M. Alice Brownell, M. D.

New York City, Courts in.— William H. Arnoux, chairman; Jacob F. Miller, Austin Abbott, Charles A. Davison, William C. Reddy, secretary.

New York City, excise positions in.— S. Hastings Grant, chairman; Walter D. Edmonds, secretary.

Ogdensburg, St. Lawrence State Hospital at.— J. Montgomery Mosher, M. D., chairman; William C. Hall; Robert G. Cook, M. D., secretary.

Plattsburg.— Fox Holden, chairman; William C. Watson, William P. Mooers.

Poughkeepsie, Hudson River State Hospital at.— Charles H. Langdon, M. D., chairman; D. Porter Lord, Caroline S. Pease, M. D.

Rochester, State Hospital at.— Ezra B. Potter, M. D., chairman; Robert M. Elliott, M. D., Eveline P. Ballintine, M. D., secretary.

Rochester, State Industrial School at.— Franklin H. Briggs, chairman; Edwin Foster, Margaret Craig.

Sing Sing Prison.— Albert Babcock, chairman; Jared Sandford, James Connaughton.

Syracuse.— William G. Cady, chairman; Louis L. Waters, Charles W. Bardeen.

Syracuse, Asylum For Feeble-minded Children at.—John L. Barnett, chairman; William G. Hall, Alvina E. Wood.

Utica, State Hospital at.— William Mabon, M. D., chairman; John R. Jones, Emma Barker.

Willard, State Hospital at.— Alexander Nellis, Jr., M. D., chairman; Morris J. Gilbert, Edwin R. Bishop, M. D., secretary.

APPOINTMENTS, SCHEDULE B.

Date.		NAME.	Position.	Office.
1891.				
December	24	Joseph W. Ellis	Examiner	Regents of the University.
1892.				
January	1	Walter W. McKown	Stenographer	Commission in Lunacy.
January	15	Alice C. McCormack	Junior clerk	Regents of the University.
January	18	Lillie A. Walker	Junior clerk	Regents of the University.
January	18	Fannie M. Wensley	Junior clerk	Regents of the University.
January	18	Daisy Hydeman	Junior clerk	Regents of the University.
January	23	H. L. Palmer, M. D	Junior assistant physician	State hospital, Utica.
February	1	Agnes O'Neill	Examiner	Regents of the University.
February	8	Elizabeth Fealey	Junior clerk	Regents of the University.
February	8	Lottie A. Wemple	Junior clerk	Regents of the University.
February	8	Frances Ronan	Junior clerk	Regents of the University.
February	8	Anna M. Atkinson	Junior clerk	Regents of the University.
February	8	Elizabeth A. McDermott	Junior clerk	Regents of the University.
February	8	Grace D. Allen	Junior clerk	Regents of the University.
February	8	Dora Schlesinger	Junior clerk	Regents of the University.
February	8	Hannah L. Hamlin	Junior clerk	Regents of the University.
February	8	Charles G. Wagner, M. D	Superintendent	State hospital, Binghamton.
February	10	Ida V. Burch	Stenographer	Regents of the University.
February	15	Harriet A. Chapman	Stenographer	Regents of the University.
February	17	William C. Myers	Bookkeeper	State hospital, Utica.
March	4	William Mabon, M. D	First assistant physician	State hospital, Utica.
March	22	Charles E. Goodrich	Guard	Elmira reformatory.
March	26	E. R. Sears	Guard	Elmira reformatory.
April	1	Martin Maloney	Guard	Elmira reformatory.
April	6	Patrick O'Rorke	Guard	Elmira reformatory.
April	12	Wendell E. Harter	Guard	Elmira reformatory.
April	15	Whitmore Steele, M. D	Junior assistant physician	State hospital, Utica.
April	22	James H. Gibson	Examiner	Regents of the University.
April	23	William A. White, M. D	Junior assistant physician	State hospital, Binghamton.
April	27	Arthur Decker	Guard	Elmira reformatory.
May	2	Henry C. Tuthill	Guard	Elmira reformatory.
May	5	William H. Rockwell	Guard	Elmira reformatory.
May	9	Myron T. Scudder	Examiner	Regents of the University.
May	19	Jennie B. Tompkins	Teacher	State industrial school, Rochester.
May	27	James H. Murphy	Guard	Elmira reformatory.
May	27	Patrick H. Foley	Guard	Elmira reformatory.
June	2	Levi R. Eldred	Guard	Elmira reformatory.
June	6	Dorlan Clark	Levelman	State Engineer and Surveyor.

June	9	Jesse S. McNish	Guard	Elmira reformatory.
June	9	A. R. McDonald	Stenographer	Department of Public Instruction.
June	14	Lucy A. O'Brien	Stenographer (temporary)	Secretary of State.
June	15	James B. Watts	Guard	Elmira reformatory.
June	15	Paul L. Schultz	Levelman	State Engineer and Surveyor.
June	25	James T. Erwin	Guard	Elmira reformatory.
June	25	Charles F. Whitlock	Guard	Elmira reformatory.
June	27	Martha Dickson	Stenographer (temporary)	Regents of the University.
July	4	Edward H. Blood	Guard	Elmira reformatory.
July	8	William F. Sayre	Guard	Elmira reformatory.
July	13	Dexter M. Teller	Rodman	State Engineer and Surveyor.
July	13	Joseph P. O'Brien	Page	Regents of the University.
July	16	J. H. Fansnaught	Guard	Elmira reformatory.
July	18	May J. McLaughlin	Junior clerk	Regents of the University.
July	18	Elizabeth G. Ahern	Junior clerk	Regents of the University.
July	18	Minnie Sennett	Junior clerk	Regents of the University.
July	20	Ellen F. Sands	Junior clerk	Regents of the University.
July	20	Mary A. McLaughlin	Junior clerk	Regents of the University.
July	20	Anna M. Weis	Junior clerk	Regents of the University.
July	20	Alice T. Ryan	Junior clerk	Regents of the University.
July	20	Mary A. Murphy	Junior clerk	Regents of the University.
July	29	John R. Kaley	Assistant engineer	State Engineer and Surveyor.
August	4	Harvey Feldmeier	Assistant engineer	State Engineer and Surveyor.
August	17	Nellie M. Shattuck	Teacher	State industrial school, Rochester.
August	17	Luella A. Parmalee	Teacher	State industrial school, Rochester.
August	17	Mary C. McGee	Teacher	Institution for the blind, Batavia.
August	17	E. F. Crane	Music teacher	Institution for the blind, Batavia.
August	20	Fred Bryce	Clerk (temporary)	Comptroller.
August	29	William Clair	Guard	Elmira reformatory.
August	30	Mrs. Mary L. Gifford	Stenographer	Long Island home, Amityville.
September	3	Thomas Dinneen	Bookkeeper	St. Lawrence State hospital, Ogdensburg.
September	8	Mordicia J. Rosa	Rodman	State Engineer and Surveyor.
September	12	Michael J. Driscoll	Page	Regents of the University.
September	17	Byron M. Child	Bookkeeper	Elmira reformatory.
September	19	Mary K. M. Lynch	Stenographer	State asylum, Matteawan.
September	19	Mrs. T. C. Stone	Teacher	State industrial school, Rochester.
September	19	Mary A. Greene	Teacher	State industrial school. Rochester
September	19	Etta E. Southwell	Teacher	State industrial school, Rochester.
September	28	Jacob Butterfuss	Guard	Elmira reformatory.
September	29	James C. Van Etten	School secretary	Elmira reformatory.
September	29	Philip J. McCormack	Page	Regents of the University.
October	1	William D. Reynolds	Guard	Elmira reformatory.
October	1	Maurice C. Ashley, M. D	Junior assistant physician	State hospital, Middletown.
October	4	Wellington McDonald	Guard	Elmira reformatory.
October	4	John J. Flahive	Guard	Elmira reformatory.
October	24	Albert D. Sheive	Guard	Elmira reformatory.
October	24	Louis W. Dodson, M. D	Junior assistant physician	State hospital, Binghamton.
October	27	Richard H. Hutchings, M. D.	Junior assistant physician	St. Lawrence State hospital, Ogdensburg.
October	29	Dora N. Taylor	College assistant	Regents of the University.
October	29	Grace Eastman	College assistant	Regents of the University.

SCHEDULE B — (*Concluded*).

Date.		NAME.	Position.	Office.
1892.				
November	1	Myrtilla Avery	College assistant	Regents of the University.
November	2	Frank C. Lynch	Guard	Elmira reformatory.
November	3	Lulu M. Hyland	Clerk (temporary)	Regents of the University.
November	21	Helene J. C. Kuhlmann, M. D	Female physician	State hospital, Buffalo.
November	22	Clarence J. Farr	Apothecary	State hospital, Willard.
December	2	Thomas Driscoll	Page	Regents of the University.
December	5	James J. Nolan	Page	Regents of the University.
December	17	Alfred Burley	Guard	Elmira reformatory.
December	21	George B. Graves	Page	Regents of the University.
December	22	E. Gerald Griffin	Page	Regents of the University.
December	23	Joseph Morje	Page	Regents of the University.
December	26	Henry C. Berdine	Guard	Elmira reformatory.
December	30	Edward Decker	Guard	Elmira reformatory.

APPOINTMENTS, SCHEDULE C.

GENERAL.

Date.	NAME.	Position.	Office.
1892.			
January 22	Joseph A. Kellogg	Brief clerk	Attorney-General.
January 22	Charles M. Friend	Assistant to second deputy	Attorney-General.
April 13	Harriet S. Hamlin	Private secretary	Factory Inspector.
April 26	William B. Wemple	Voucher clerk	Comptroller.
June 2	Edwin M. Holbrook	Law clerk	Department Public Instruction.
July 20	Mary L. Sutliff	Assistant librarian	State Library.
July 20	Elizabeth L. Foote	Assistant librarian	State Library.
July 20	William R. Eastman	Assistant librarian	State Library.
August 1	John L. Barnett	Steward	Asylum for Feeble-Minded Children, Syracuse.
September 16	Ward Whitcomb, M. D	Physician	State Institution for the Blind, Batavia.
October 4	William S. Burns	Assistant librarian	State Library.
October 4	Charlotte S. Fearey	Assistant librarian	State Library.
November 28	Henry W. Wolf	Inspector	Board of excise, New York.
December 9	George C. Steenberg	Corporation bookkeeper	Secretary of State.
December 13	James S. McGovern	Inspector	Board of excise, New York.
December 20	Bernard S. Doyle	Chief clerk	Engineer and Surveyor.

APPOINTMENTS MADE IN THE COURTS.

Date.		NAME.	Position.	Court.
1891.				
December	19	David J Daly	Assistant clerk	Superior Court, New York.
December	31	Charles L. Guy	Stenographer	Superior Court, New York.
1892.				
January	9	Joseph H. Batey	Attendant	Tenth District Court, New York
January	9	Michael J. Sullivan	Attendant	Tenth District Court, New York.
January	9	Nathaniel A. Jarvis	Attendant	Supreme Court, New York.
January	9	John M. Wall	Stenographer	City Court. New York.
January	9	Nicholas J. Hayes	Assistant clerk	Superior Court, New York.
January	16	Joseph F. Earley	Attendant	Superior Court, New York.
January	30	Alfred Walker	Attendant	Court of General Sessions, New York.
February	16	John J. McDermott	Attendant	Court of General Sessions, New York.
March	2	Lorenzo J. Farrell	Attendant	City Court, Brooklyn.
March	21	John A. Flanigan	Attendant	Third District Court, New York.
March	30	Peter F. Hagan	Attendant	Court of Sessions, Brooklyn.
March	30	Frank J. Kalt	Assistant clerk	Court of Sessions, Brooklyn.
March	30	John H. Moore	Assistant clerk	Court of Sessions, Brooklyn.
April	12	Andrew B. Macdonald	Attendant	Supreme Court, New York.
April	29	William W. Richards	Assistant clerk	Second District Court, Brooklyn.
May	14	Benjamin H. Doane	Stenographer	Supreme Court, New York.
May	21	Thomas J. Kelly	Subpœna clerk	Court of Special Sessions, New York.
May	25	James Flaherty	Attendant	City Court, Brooklyn.
May	28	John E. Lynch	Attendant	City Court, New York.
June	11	William Geoghegan	Assistant clerk	Court of Common Pleas, New York.
June	14	Benjamin H. Doane	Attendant	Supreme Court, New York.
June	28	John W. Richards	Stenographer	Third District Court, Brooklyn.
June	28	Charles O'Neill	Assistant clerk	First District Court, Brooklyn.
July	7	John McQuade	Attendant	Court of Common Pleas, New York.
July	7	George A. Tallman	Attendant	Court of Common Pleas, New York.
November	1	William Hannah	Attendant	Supreme Court, New York.
November	12	Michael J. Kelly	Stenographer	City Court, New York.
November	12	John Golden	Janitor	Ninth District Court, New York.
November	19	David T. Hickey	Janitor	Eighth District Court, New York.
November	19	Michael Bergin	Attendant	Third District Court, New York.
November	26	Michael Brennan	Attendant	First District Court, New York.
December	3	Michael Quinn	Attendant	Court of General Sessions, New York.
December	12	Frederick Brink	Attendant	Supreme Court, Brooklyn.
December	17	Charles S. Walker	Janitor	Tenth District Court, New York.
December	17	Morgan I. Skiddy	Attendant	Superior Court, New York.
December	17	John Rottkamp	Attendant	Court of Common Pleas, New York.

December	24	Charles Benjamin	Attendant	City Court, New York.
December	24	Valencourt S. Lillie	Stenographer	Third District Court, New York.
December	31	Henry Smith	Attendant	Court of General Sessions, New York.
December	31	David Cohn	Attendant	Court of Common Pleas, New York.
December	31	William J. A. McKim	Attendant	Court of Common Pleas, New York.
December	31	John P. Browning	Attendant	Court of Common Pleas, New York.
December	31	A. Sidney Norton	Attendant	Court of Common Pleas, New York.
December	31	Peter A. Loughlin	Stenographer	Court of Common Pleas, New York.
December	31	John O'Reilly	Attendant	Court of General Sessions, New York.
December	31	Hugh J. McEvoy	Attendant	Court of Common Pleas, New York.
December	31	Alexander McQueen	Attendant	Court of General Sessions, New York.

HEALTH OFFICERS APPOINTED, 1892.

NAME	City.	County.
John W. Benton, M, D	Ogdensburg	St. Lawrence.

NAME.	Village.	County.
J. E. K. Morris, M. D	Olean	Cattaraugus.
E. E. Campbell, M. D	Alexandria Bay	Jefferson.
Fred L. Santway, M. D	Theresa	Jefferson.
A. M. Whiton, M. D	Brockport	Monroe.
Willis M. Wells, M. D	Oswego Falls	Oswego.
L. W. Baker, M. D	Cherry Valley	Otsego.
George A. Sterling, M. D	Sag Harbor	Suffolk.
L. A. Bromley, M. D	Granville	Washington.

NAME.	Town.	County.
Weller Roos, M. D	Barker	Broome.
C. W. House, M. D	Locke	Cayuga.
W. D. Swain, M. D	Copake	Columbia.
Richard F. Duncan, M. D	Pleasant Valley	Dutchess.
J. K. Johnson, M. D	Brandon	Franklin.
William S. Tromer, M. D	Flatlands	Kings.
A. W. Haskins, M. D	Hamilton	Madison.
Frederick M. Miller, M. D	Deerfield	Oneida.
Frederick Hooker, M. D	Lysander	Onondaga.
A. J. Young, M. D	Clifton Park	Saratoga.
John Nugent, M. D	Southampton	Suffolk.
L. A. Bromley, M. D ,	Granville	Washington.

LIST OF DEATHS AND PROMOTIONS IN, AND REMOVALS FROM, THE PUBLIC SERVICE, REPORTED SINCE THE LAST ANNUAL REPORT.

LIST OF DEATHS.

NAME.	Position.	Date of Appointment.	Date of Death.
Benjamin N. Eastman	Steward, Asylum for Feeble-minded Children, Syracuse	February 28, 1874	June 22, 1892
Cyrus Stewart	Deputy superintendent, Banking Department	May 15, 1890	April 15, 1892
John F. Quinn	Stenographer, Board of Excise, New York	October 15, 1886	March 26, 1892
William Hogan	Inspector, board of excise, New York	February 1, 1888	November 18, 1892
John J. Ryan	Police justice, New York city	December 18, 1890	April 24, 1892
Daniel O'Reilly	Police justice, New York city	November 15, 1883	October 19, 1892
John E. Kelly	Police justice, New York city	May 2, 1891	 1892
Charles W. Thomas	Clerk, City Court, Brooklyn	December 1, 1883	June 10, 1892
John Reid	Deputy clerk, City Court, New York	October 17, 1888	October 21, 1892
John Sparks	Clerk, Court of General Sessions, New York	....	January 15, 1892
Robert Lindsey	Attendant, Court of General Sessions, New York	1861	February 9, 1892
George Kelly	Subpœna clerk, Court of Special Sessions, New York	December 31, 1889	May 7, 1892
Thomas F. Walsh	Attendant, Supreme Court, New York	June 1, 1888	April 22, 1892
Christopher Bathe	Attendant, Supreme Court, New York	June 6, 1884	May 31, 1892
Walter J. Corr	Attendant, Supreme Court, New York	September 15, 1889	October 25, 1892
Peter Mitchell	Justice, First District Court, New York	....	May 9, 1892
John A. Flanagan	Attendant, Third District Court, New York	March 21, 1892	October 23, 1892
James A. Gill	Stenographer, Sixth District Court, New York	January 8, 1888	September 11, 1892
Joseph C Fredericks	Janitor, Eighth District Court, New York	June 1, 1888	October 8, 1892
T. S. Armstrong, M. D.	Superintendent, State Hospital, Binghamton	July 1, 1880	December 27, 1891
George H. Saunders	Bookkeeper, State Hospital, Utica	October 1, 1877	March 15, 1892
Garrett Farrell	Chief clerk, office of Inspector-General	July 1, 1886	October 7, 1892
Abraham Spencer	Artificer, Department of Ordnance	January 1, 1883	January 19, 1892
John B. Longley	Secretary, Quarantine Commission	January 1, 1892	April 30, 1892
Samuel V. B. Swann	Messenger, office of State Treasurer	October 1, 1882	August 28, 1892
Albert B. Watkins	Assistant secretary, Regents of the University	November 1, 1884	March 18, 1892

LIST OF PROMOTIONS.

NAME.	Position.	Date.
Frederick Phisterer	Acting Assistant Adjutant-General to Assistant Adjutant-General	December 1, 1892
John W. Hogan	Third Deputy to First Deputy Attorney-General	February 12, 1892
Lawrence F. Cahill	Examiner to Deputy Superintendent Banking Department	June 9, 1892
William F. Creed	Examiner to chief examiner, Banking Department	June 9, 1892
John J. Sullivan	Inspector to special inspector, Board of Excise, New York	April 29, 1892
August J. Laske	Attendant to clerk's assistant. Board of Police Justices, New York	January 1, 1892
J. F. Keenan	Guard to keeper. Clinton prison	January 6, 1892
Joseph Robarge	Guard to keeper, Clinton prison	January 6, 1892
John M. Hanley	Guard to keeper, Clinton prison	January 6, 1892
H. W. Burnham	Guard to keeper, Clinton prison	January 6, 1892
John L. Marsden	Guard to keeper, Clinton prison	February 1, 1892
M. Van Gorder	Guard to keeper, Clinton prison	February 1, 1892
John Farnsworth	Assistant clerk to clerk, Clinton prison	April 1, 1892
George A. Tallman	Attendant to justice's clerk, Court Common Pleas, New York	September 30 1892
Nicholas J. Hayes	Attendant to assistant clerk, Superior Court, New York	January 9, 1892
Chapman L. Johnson	Division engineer to Deputy State Engineer	January 1, 1892
John P. Kelly	Resident engineer to division engineer, State Engineer and Surveyor	January 1, 1892
R. R. Stuart	Assistant engineer to division engineer, State Engineer and Surveyor	May 16, 1892
Edwin Styring	Rodman to leveler, State Engineer and Surveyor	June 1, 1892
T. A. Hendrickson	Rodman to leveler, State Engineer and Surveyor	June 15, 1892
A. C. Driscoll	Leveler to assistant engineer, State Engineer and Surveyor	June 15, 1892
W. Leighton	Rodman to assistant engineer, State Engineer and Surveyor	August 1, 1892
D. R. Lee	Leveler to assistant engineer, State Engineer and Surveyor	September 1, 1892
Vincent M. Masten	Military instructor to Acting Superintendent, State Industrial School. Rochester	February 1, 1892
Mary E. Walsh	Teacher to Assistant Superintendent of Schools, State Industrial School, Rochester	February 1, 1892
Michael Shannon	Chief examiner to First Deputy Superintendent, Insurance Department	June 9, 1892
Matthew H. Robertson	Chief clerk to Second Deputy Superintendent, Insurance Department	June 9, 1892
Charles F. Wheelock	Examiner to Inspector, Regents of the University	October 1, 1892
Myron T. Scudder	Examiner to Inspector, Regents of the University	October 1, 1892
Mrs. Ida G. McMillan	Credential clerk, Regents of the University; $720 to $900	October 1, 1892
Verlista Shaul	Examiner, Regents of the University, $780 to $900	October 1, 1892
Frank T. Boland	Stenographer, Regents of the University, $720 to $900	October 1, 1892
May Seymour	Assistant librarian, State Library, to Secretary's Assistant, Regents of the University	October 1, 1892
D. V. R. Johnston	Assistant librarian, $1,440 to $1,800	October 1, 1892
Mary S. Cutler	Assistant librarian, $1,320 to $1,500	October 1, 1892
Florence Woodworth	Assistant librarian to Director's Assistant, $960 to $1,200	October 1, 1892
William B. Shaw	Assistant librarian, $960 to $1,200	October 1, 1892
John M. Clarke	Assistant paleontologist, State Museum, $1,800 to $2,000	October 1, 1892

LIST OF REMOVALS.

NAME.	Position.	Date of Appointment.	Date of Removal.
E. G. Murphy	Assistant chemist, Agricultural Experiment Station, Geneva	March 15, 1892	June 1, 1892
E. J. Clark	Examiner, Banking Department	September 19, 1892	November 29, 1892
J. Van Vranken	Examiner, Banking Department	June 15, 1892	December 8, 1892
Charles E. Brehm	Inspector, Board of Excise, New York	November 17, 1891	September 30, 1892
George T. Church	Registrar, State Board of Health	August 5, 1891	March 2, 1892
Miss G. B. Winne	Clerk, State Board of Health	September 29, 1886	May 1, 1892
James Conway	Keeper, Clinton prison	September 10, 1887	January 4, 1892
Joseph Cassidy	Guard, Clinton prison	December 1, 1889	January 4, 1892
Charles A. Morrell	Guard, Clinton prison	July 1, 1892	September 22, 1892
H. B. Waldron	Voucher clerk, Comptroller's office	June 1, 1891	December 21, 1891
John J. Walsh	Entry clerk, Comptroller's office	February 11, 1884	April 15, 1892
Henry Smith	Attendant, Court Common Pleas, New York	October 1, 1870	December 7, 1892
Patrick J. O'Brien	Attendant, Court General Sessions, New York	……………… 1882	December. 1, 1892
John C. Duffy	Subpœna clerk, Court Special Sessions, New York	December 17, 1889	January 1, 1892
James J. Toomey	Deputy clerk, First District Court, Brooklyn	February 1, 1889	June 1, 1892
William McFeeters	Stenographer, Third District Court, Brooklyn	April 1, 1889	May 31, 1892
Charles Sears	Expert and agent, Dairy Commissioner	August 24, 1884	January 15, 1892
T. C. Dubois	Expert and agent, Dairy Commissioner	January 1, 1885	January 31, 1892
Thomas R. Gray	Expert and agent, Dairy Commissioner	September 1, 1884	January 31, 1892
F. P. Vandenberg	Chemist, Dairy Commissioner	February 1, 1890	February 1, 1892
P. J. Foley	Guard, Elmira reformatory	May 27, 1892	October 4, 1892
John P. Masterson	Chief clerk, Engineer and Surveyor	January 1, 1884	November 28, 1892
Miss E. G. Crans	Stenographer, Engineer and Surveyor	April 21, 1890	April 15, 1892
James Hagerty	Private secretary, Factory Inspector	August 7, 1891	May 2, 1892
Annie Campbell	Deputy Factory Inspector	March 1, 1891	November 1, 1892
John B. Kotteritz	Special agent, Forest Commission	December 15, 1890	May 1, 1892
John B. Locke	Inspector, Forest Commission	December 9, 1886	November 30, 1892
Thomas J. Brady	Forester, Forest Commission	July 7, 1891	November 30, 1892
William Flynn	Forester, Forest Commission	June 10, 1886	November 30, 1892
William M. Smith, M. D	Health officer, Port of New York	March 24, 1880	February 1, 1892
George B. Schoeffel	Clerk, Industrial School, Rochester	September 9, 1889	March 31, 1892
E. K. Burnham	Superintendent Public Buildings	June 1, 1887	February 1, 1892
Edwin S. Mellin	Secretary, Quarantine Commission	June 22, 1882	January 1, 1892

LIST OF RESIGNATIONS.

NAME.	Position.	Date of Appointment.	Date of Resignation.
John Hobbs	Clerk, Adjutant-General	September 1, 1891	April 20, 1892
James F. Corbally	Clerk, Adjutant-General	January 1, 1892	April 20, 1892
John A. Murtha	Clerk, Adjutant-General	....	April 30, 1892
John S. McEwen	Assistant Adjutant-General	January 1, 1880	November 22, 1892
James F. Queenan	Assistant to Second Deputy Attorney-General	March 5, 1891	December 16, 1891
Michael H O'Brien	Brief clerk, Attorney-General	January 1, 1891	December 16, 1891
William R. De Lano	Document clerk, Attorney-General	January 1, 1888	May 15, 1892
Lawrence F. Cahill	Deputy superintendent, Banking Department	June 9, 1892	September 16, 1892
P. J. Moriarity	Inspector, Board of Excise, New York	December 15, 1886	December 21, 1891
Frederick Carman	Assistant secretary, Board of Health	August 11, 1881	August 15, 1892
Philip Wissig	Police clerk, Board of Police Justices	May 25, 1891	June 1, 1892
John A. Sleicher	Civil Service Commissioner	January 8, 1890	November 22, 1892
William A. Poste	Civil Service Commissioner	January 8, 1890	November 22, 1892
Isaiah Fuller	Agent and warden, Clinton prison	July 16, 1879	January 1, 1892
S. Allen	Keeper, Clinton prison	October 5, 1879	February 29, 1892
James Moon	Principal keeper, Clinton prison	March 27, 1877	April 30, 1892
Rev. Horace L. Grant	Chaplain Clinton prison	January 1, 1890	April 15, 1892
George Storrs	Guard, Clinton prison	August 31, 1890	April 30, 1892
Guy E. Baker	Financial clerk, Court of Appeals	April 1, 1881	May 1, 1892
Charles L. Guy	Stenographer, City Court, New York	January 10, 1884	January 1, 1892
J. A. Jameson, Jr	Assistant clerk, Court Common Pleas, New York	March 9, 1887	May 12, 1892
Samuel Jones	Clerk, Court Common Pleas, New York	August 27, 1889	June 23, 1892
Henry C. Patterson	Attendant, Court General Sessions, New York	 1879	January 31, 1892
John J. McDermott	Attendant, Court General Sessions, New York	February 11, 1892	March 31, 1892
John F. Carroll	Clerk, Court Special Sessions, New York	December 1, 1889	January 25, 1892
Lewis W Reis	Attendant, Superior Court, New York	January 27, 1877	November 30, 1892
Nathaniel J. Lane	Attendant, Supreme Court, New York	May 15, 1891	January 1, 1892
Patrick H. Hall	Attendant, Supreme Court, New York	June 10, 1884	April 1, 1892
Benjamin H. Doane	Justice's clerk, Supreme Court, New York	June 7, 1892	September 1, 1892
Alexander McQueen	Attendant, First District Court, New York	December 1, 1887	November 30, 1892
Jacinto Costa, Jr	Attendant, Third District Court, New York	January 1, 1891	April 1, 1892
Michael J. Kelly	Stenographer, Third District Court, New York	January 1, 1876	December 5, 1892
Jacob Guthorn	Interpreter, Fourth District Court, New York	January 3, 1890	February 18, 1892
David Lion	Assistant clerk, Fourth District Court, New York	March 11, 1891	June 1, 1892
William H. Sharrott	Janitor, Ninth District Court, New York	March 23, 1887	March 1, 1892
J. J. Sorragan	Expert and agent, Dairy Commissioner	July 16, 1884	April 30, 1892
Eugene McLaferty	Guard, Elmira reformatory	March 7, 1889	February 8, 1892
Frank Carpenter	Guard, Elmira reformatory	March 26, 1889	July 13, 1892
C. C. Mix	Guard, Elmira reformatory	June 2, 1890	February 5, 1892
J. L. Storms	Guard, Elmira reformatory	July 25, 1890	January 4, 1892
D. M. Swartwood	Guard, Elmira reformatory	January 1, 1891	June 16, 1892
S. G. Campbell	Guard, Elmira reformatory	June 25, 1891	June 13, 1892

C. B. Kress	Guard, Elmira reformatory	October	20, 1891	April	25, 1892
Ralph P. Brown	Guard, Elmira reformatory	November	26, 1891	March	3, 1892
J. W. Wood	Guard, Elmira reformatory	February	12, 1892	August	8, 1892
James H. Murphy	Guard, Elmira reformatory	May	27, 1892	July	26, 1892
Levi R. Eldred	Guard, Elmira reformatory	June	2, 1892	December	13, 1892
James B. Watts	Guard, Elmira reformatory	June	15, 1892	August	5, 1892
C. R. Sears	Guard, Elmira reformatory	April	2, 1892	April	23, 1892
Martin Maloney	Guard, Elmira reformatory	April	4, 1892	July	16, 1892
Elmer E. Burton	Guard, Elmira reformatory	May	12, 1890	October	4, 1892
Edward H. Blood	Guard, Elmira reformatory	July	6, 1892	October	10, 1892
Wendell Harter	Guard, Elmira reformatory	April	18, 1892	October	11, 1892
John J. Flahive	Guard, Elmira reformatory	October	4, 1892	November	7, 1892
John T. Byrne	Bookkeeper, Elmira reformatory	February	1, 1888	November	2, 1892
A. S. Kibbe	Assistant engineer, Engineer and Surveyor	September	1, 1887	March	31, 1892
Henry T. Beach	Division engineer, Engineer and Surveyor	August	1, 1889	May	15, 1892
George I. Bailey	Assistant engineer, Engineer and Surveyor	September	15, 1887	June	8, 1892
E. B. Noyes	Assistant engineer, Engineer and Surveyor	February	18, 1887	September	6, 1892
Charles H. Barber	Rodman, Engineer and Surveyor	February	27, 1884	September	6, 1892
C. Cockroft	Leveler, Engineer and Surveyor	November	29, 1889	September	6, 1892
Howard J. Cole	Rodman, Engineer and Surveyor	December	9, 1889	September	6, 1892
J. M. Farley	Assistant engineer, Engineer and Surveyor	December	1, 1890	September	6, 1892
F. N. Kimball	Resident engineer, Engineer and Surveyor	May	1, 1890	November	21, 1892
George Schaubert	Deputy factory inspector	September	15, 1887	September	30, 1892
Annie S. Wall	Deputy factory inspector	December	29, 1891	November	1, 1892
A. W. Smith, M. D.	Deputy health officer, Port of New York	June	1, 1885	February	16, 1892
Orville J. Wilsey, M. D.	Second assistant physician, State Hospital, Binghamton	January	20, 1882	January	6, 1892
Charles G. Wagner, M. D.	First assistant physician, State Hospital, Utica	February	10, 1889	February	8, 1892
Charles E. Atwood, M. D.	Second assistant physician, State Hospital, Utica	....	....	March	4, 1892
S. C. Havenor	Assistant supervisor, House of Refuge for Women, Hudson	September	1, 1891	February	29, 1892
Mary A. Pratt	Assistant supervisor House of Refuge for Women, Hudson	November	1, 1888	March	31, 1892
L. G. Sterling	Assistant matron, House of Refuge for Women, Hudson	May	1, 1887	May	31, 1892
Mary A. Dewey	Assistant supervisor, House of Refuge for Women, Hudson	November	1, 1891	May	31, 1892
Julia von St. George	Assistant supervisor, House of Refuge for Women, Hudson	June	1, 1892	September	30, 1892
Grace H. Sterling	Assistant supervisor, House of Refuge for Women, Hudson	November	1, 1888	October	31, 1892
Celia M. Joslyn	Teacher Industrial School, Rochester	July	1, 1880	September	30, 1892
Wallace C. Brooks	Chief clerk, Inspector-General	October	27, 1892	December	1, 1892
W. T. Bolton, M. D.	Physician, Institution for the Blind, Batavia	June	12, 1889	June	1, 1892
Mary E. Scarff	Teacher, Institution for the Blind, Batavia	July	15, 1886	July	1, 1892
Nellie M. Lynch	Teacher, Institution for the Blind, Batavia	September	1, 1887	July	1, 1892
Walter W. McKown	Stenographer, Lunacy Commission	January	1, 1892	March	1, 1892
William Funda	Assistant salt inspector, Salt Works, Syracuse	May	1, 1886	January	1, 1892
O. W. Clark	Assistant salt inspector, Salt Works, Syracuse	April	1, 1883	January	1, 1892
Charles K. Baker	Clerk, Superintendent State Prisons	January	1, 1886	November	1, 1892
Frank D. Shea	Confidential clerk, Department of Public Instruction	April	7, 1886	June	1, 1892
T. H. Ferris	Financial clerk, Department of Public Instruction	April	7, 1886	June	30, 1892
Irene Brush	Stenographer, Department of Public Instruction	October	1, 1888	July	31, 1892
Charles E. Hawkins	Inspector teachers' classes, Department of Public Instruction	April	20, 1889	August	31, 1892
Hiram Barber, M. D.	Physician, Sing Sing Prison	May	15, 1880	January	1, 1892

LIST OF RESIGNATIONS — (*Concluded*).

NAME.	Position.	Date of Appointment.	Date of Removal.
G. W. Wende, M. D.	Assistant surgeon, Soldiers' and Sailors' Home, Bath	November 30, 1889	February 1, 1892
Ida V. Burch	Stenographer, Regents of the University	February 9, 1892	June 1, 1892
Frank C. Patten	Assistant librarian, Regents of the University	April 1, 1889	June 15, 1892
Mary W. Loomis	Assistant librarian, Regents of the University	November 7, 1890	July 1, 1892
Roscoe B. Wills	Page, Regents of the University	March 18, 1891	July 9, 1892
Ralph W. Thomas	Chief examiner, Regents of the University	December 15, 1888	September 30, 1892
Charles W. Samson	Page, Regents of the University	December 3, 1890	December 15, 1892

LIST OF REMOVALS AND RESIGNATIONS.

Attendants, Nurses, Etc., in the State Hospitals and similar Institutions.

Asylum for Insane Criminals, Matteawan	12
Asylum for Feeble Minded Children, Syracuse	29
Custodial Asylum for Women, Newark	17
Elmira reformatory	57
Hospital, State, Binghamton	94
Hospital, State, Buffalo	26
Hospital, State, Middletown	59
Hospital, St. Lawrence, State, Ogdensburg	53
Hospital, Hudson River, State, Poughkeepsie	140
Hospital, State, Rochester	9
Hospital, State, Utica	57
Hospital, State, Willard	208
Industrial School, Rochester	8
Total	769

CHANGES IN THE CLASSIFICATION.

Confidential Clerk, Department of State Geologist, Classified.

Department of State Geologist,
Albany, N. Y., *February* 4, 1892.

To the Civil Service Commission:

Gentlemen.— In my work as State Geologist and Paleontologist I need the services of a clerk and assistant, who shall be competent as a proof reader both in ordinary work and of scientific matter; a good stenographer and typewriter, familiar with scientific terms and technical language, and, to some extent, with the bibliography of science generally, but especially with all the publications of the State museum and geological survey for the past twenty years. He must have some general knowledge of the geological formations of the State, and particularly with our large collections in the State hall, and capable of selecting such specimens as may be needed for special use in our work, when so directed; of writing out and recording catalogues of the specimens and other similar work in connection with the progress and preparation of reports, etc. It is necessary that he should know the condition of printing and lithographing for reports and for the volumes on the paleontology of the State, so as to be able to act intelligently in taking and receiving messages, manuscript, proof of text, drawings, plates, etc., to the printer and lithographer; for he is required to act as messenger, as well as clerk and proof reader.

Beyond all this he is required to act as my confidential clerk, in which capacity I have special need of his services.

Jacob Vanderloo, who is now acting as my clerk and performing the duties above specified, has been more or less in my service since before he left school, and has become familiar with my work, my library and the collections which are required in the progress of my work. He has acted in the capacity of proof reader, clerk, accountant, stenographer, etc., for five years, being first paid from a special allowance made to me for incidental expenses, and afterwards by appointment from the office of the Regents. More recently he has received his pay through me as an allowance made for clerk hire, etc., but without special appointment. Recently I have been notified by Secretary Dewey that this mode of payment is in contravention of the law regulating appointments under the civil service rules.

Under the circumstances I beg leave to ask your honorable body to place Jacob Vanderloo upon the Schedule A that he may be allowed to continue his services in the capacity I have above stated.

Very respectfully your obedient servant,

JAMES HALL,
State Geologist.

At a meeting of the Commission held February 16, 1892, it was

Resolved, That in view of the facts set forth in the communication from State Geologist Hall, under date of February 4, 1892, the position of confidential clerk in his department be, and hereby is, included in Schedule A of the State Classification. (Approved by the Governor February 26, 1892.)

Director of Examinations, Regents' Office, Classified.

Executive Chamber, Albany, N. Y.,
March 8, 1892.

To the Civil Service Commission of the State of New York:

Gentlemen.—I recommend that the director of examinations in the Regents' office be classified in Schedule A.

ROSWELL P. FLOWER,
Governor.

At a meeting of the Commission held March 9, 1892, it was

Resolved, That the office of director of examinations in the department of the Regents of the University, be and hereby is included in Schedule A of the State Classification. (Approved by the Governor, March 11, 1892.)

Voucher Clerk, Comptroller's Office, Classified.

Comptroller's Office, Albany, N. Y.,
November 10, 1891.

To the Honorable The Civil Service Commission, Albany, N. Y.

Gentlemen. — I respectfully request that the position of voucher clerk in this office be placed in Schedule C.

The reasons for this request are that the position requires a thorough knowledge of business affairs, and the adjustment of accounts, and a skilled accountant; a person well acquainted with the value of produce and supplies required by all the public institutions of the State.

Favorable action by your Commission is urgently requested.

Very respectfully yours.

EDWARD WEMPLE,
Comptroller.

At a meeting of the Commission held December 30, 1891, it was

Resolved, That it appearing to the satisfaction of this Commission that the duties of voucher clerk in the office of the Comptroller are those of an auditor of all claims presented to the Comptroller for payment, and that they partake of a judicial character and involve an expert knowledge of values, the said position of voucher clerk is hereby enrolled in Schedule C of the State Classification. (Approved by the Governor, April 23, 1892.)

Confidential Clerk, Department of Adjutant-General, Classified.

Adjutant-General's Office,
Albany, N. Y., *April* 28, 1892.

To the New York Civil Service Commission:

I have the honor to acknowledge the receipt of a communication from the secretary of your commission, dated the twelfth instant, notifying me that certain positions in this office were held in violation of the law.

One of the persons named, viz.: Frank A. McNeely, holds the position of stenographer, and acts in a confidential capacity in conducting my correspondence. It is important in transacting the business of this office, that I should have a clerk who is thoroughly discreet and trustworthy. Mr. McNeely has been entirely satisfactory to me in this connection, and I respectfully make application for permission to retain him as my confidential clerk and stenographer.

Very respectfully, your obedient servant.

JOSIAH PORTER,
Adjutant-General.

At a meeting of the Commission held April 29, 1892, it was *Resolved*, That the office of confidential clerk in the department of the Adjutant-General, be and hereby is included in Schedule A of the State Classification. (Approved by the Governor, April 30, 1892.)

Adjutant, Soldiers' and Sailors' Home, Classified.

Soldiers' and Sailors' Home,
Bath, N. Y., *April* 15, 1892.

C. B. Angle, *Secretary, Albany, N. Y.:*

Dear Sir.— Referring to yours of the 12th, I have the honor to state that the position of Adjutant of the Home has not been classed as one subject to examination under the civil service rules, and I think you will so find it if you refer back to the month of August, 1887, when General Pitcher addressed you a note on this subject.

The adjutant of a military post is the confidential officer of the superintendent. His duties are purely executive, and through him all orders of the commandant are issued, and in the temporary absence of the latter performs his duties.

The position requires no technical knowledge, but he ought to have military experience. If you want to embarrass the commandant of a military post take from him the appointment of his adjutant. Even the board of trustees of this Home leave this position to the choice of the superintendent, while all other appointments are made by the board.

I trust the commission will see the propriety of placing this officer on the non-competitive list as it is often difficult to find a person who is qualified by military experience to perform its duties satisfactorily.

In regard to the other positions any instructions you may be pleased to forward will be complied with promptly. I will forward you the report called for of the present employes of the Home.

The adjutant and quartermaster, or steward are ex-soldiers of the rebellion; are they not exempt from examination?

Very respectfully yours.

WM. F. ROGERS,
Superintendent.

At a meeting of the Commission held April 20, 1892, it was

Resolved, That the position of adjutant in the New York State Soldiers' and Sailors' home, be and hereby is transferred from Schedule B to Schedule A of the State Classification. (Approved by the Governor, June 28, 1892.)

Confidential Assistant, State Reformatory, Classified.

State Reformatory,
Elmira, N. Y., *May* 21, 1892.

The Honorable the Civil Service Commission, Albany, N. Y.

Gentlemen.— In the re-organization of duties for the proper government of the reformatory I find it necessary now to have a confidential man, one who in my absence or illness will have the special responsibility of matters that the superintendent exclusively controls, one who could be safely authorized to use the signature of the superintendent. I shall ask the managers to fix the salary of this confidential assistant at $1,000 a year.

I respectfully ask permission of the Civil Service Commission to make such appointment.

Your obedient servant.

Z. R. BROCKWAY,
Superintendent.

At a meeting of the Commission held June 7, 1892, it was

Resolved, That the office of confidential assistant to the superintendent of the State Reformatory at Elmira, be and hereby is included in Schedule A of the State Classification. (Approved by the Governor, June 28, 1892.)

Financial Clerk, Department Public Instruction, Classified.

Department of Public Instruction,
Albany, N. Y., *May* 19, 1892.

To the Civil Service Commission, Albany, N. Y.:

Gentlemen.— The position of financial clerk in this department is classed under the present rules of the commission, in Schedule E. The official relations of such financial clerk are necessarily confidential to the head of this department. It is his duty to keep correct accounts of and to transact all matters relating to the finances and money appropriated for this department and disbursed under the direction of the superintendent; to draw warrants and checks; make examination of accounts for audit; for payment of salaries of school commissioners; expenses relative to Indian schools, deaf and dumb institutions and blind institutions; all matters relating to accounts and the auditing thereof of normal schools; the payment of expenses of teachers' institutes; reports of monthly condition of funds; traveling expenses of the superintendent, and accounts for contingent expenses of this department and very many other matters in connection with and relating to the finances of this department.

The superintendent is responsible for the official acts of the financial clerk, and must, of necessity, rely upon him and upon his integrity, capability and correctness in the discharge of his official duties, and should have the power to select the person to fill the position.

I would respectfully request your commission to place the postion of financial clerk in this department in Schedule A, class 1, subdivision 2 of rule 5.

If the commission would desire any further statement relative to the duties of such financial clerk, and his necessarily confidential official relations with the head of this department, I shall be pleased at any time to furnish them.

Trusting that the commission will give to this request an early consideration, I am, yours respectfully.

J. F. CROOKER,
Superintendent.

At a meeting of the Commission held July 8, 1892, it was

Resolved, That the office of financial clerk in the department of Public Instruction, be and hereby is placed in Schedule A of the State Classification. (Approved by the Governor, July 25, 1892.)

Office of Dairy Commissioner, Positions Reclassified.

At a meeting of the Commission held July 29, 1892, it was, in accordance with the direction of the Governor,

Resolved, That the following named positions in the office of the State Dairy Commissioner be and hereby are included in Schedule A of the State Classification: The assistant dairy commissioners, the experts and agents, the cheese experts, the butter experts, the vinegar experts, the cheese instructors, the chemists. (Approved by the Governor, August 17, 1892.)

Office of Secretary of State,
Albany, N. Y., *July* 26, 1892.

To the Governor:

Dear Sir.—With a view of preparing for convenient examination completed files of the enumeration rolls of the inhabitants of this State as lately enumerated, it is desirable to carry to a single completed town or city roll the names of those inhabitants of the State, inmates of the several public institutions and enumerated therein on special rolls, for the purpose of comparing and confirming the accuracy of the election district rolls of the enumeration. This roll when completed will be bound with the regular district rolls of each town or city, thus bringing the total number of inhabitants of every locality together, and make the enumeration work convenient and complete for an intelligent examination, and to correspond with the rolls of previous enumerations as now on file in the State library.

It is desirable that this work should be done at once, that the enumeration rolls may be placed in the State library for public inspection. To that end it is important that we should have the services of several of the experienced persons heretofore employed in the enumeration work on account of their special fitness and experience in handling and examining these institution rolls referred to.

None of the persons on the eligible list of clerks in the office of the civil service commission have had experience in this special work. It would require much time and delay the work materially to be obliged to carry on this work with inexperienced help. For these reasons I ask that the civil service rules be suspended, and that I may be authorized to employ at once the persons desired to complete this work.

Trusting that you will assist us in this public duty, I am

Most respectfully yours.

FRANK RICE,

Secretary of State.

At a meeting of the Commission held July 29, 1892, it was, in accordance with the direction of the Governor,

Resolved, That the application of Frank Rice, Secretary of State, for the suspension of the civil service rules, so far as they relate to the persons engaged in the temporary work of completing the enumeration rolls of the inhabitants of the State, as lately enumerated, be and hereby is granted. (Approved by the Governor, August 17, 1892.)

Assistant Secretary, State Board of Health, Classified.

Office of the State Board of Health,
Albany, N. Y., *July* 13, 1892.

To the Honorable the Civil Service Commission:

Gentlemen.— As the position of assistant secretary of this board has never been classified, I respectfully ask it may be put in Schedule A in accordance with the provisions of Rule 5.

"Schedule A shall include the deputies of principal officers, duly authorized by law to act for their principals, all officers, clerks and others whose official relations are necessarily strictly confidential with the head of the office in which they serve."

The assistant secretary in this department occupies exactly the conditions described in the above quoted rule. He acts for the secretary, the head of the office, in his absence, at times signs the secretary's name to official papers, and his official relations are necessarily confidential with his chief.

Hoping this request may be granted, I have the honor to remain

Very respectfully, your obedient servant.

LOUIS BALCH, *Secretary.*

At a meeting of the Commission held July 29, 1892, it was

Resolved, That the position of assistant secretary of the State Board of Health be and hereby is included in Schedule A of the State Classification. (Approved by the Governor, August 18, 1892.)

Court Janitors Reclassified.

New York, *October*, 13, 1892.

To the Civil Service Commissioners of the State of New York:

Gentlemen.— We, the undersigned justices of the district courts of the city of New York, desire to apply to you to have the janitors of the district courts in the city of New York placed upon the non-competitive examination list. The reasons which prompt us to make this request are substantially as follows:

No appointments have yet been made since janitors were placed upon the competitive examination list, so that no opportunity has as yet been given of ascertaining whether a competitive examination can determine the fitness or qualification of applicants for the place. The laborers are upon the free list, and the duties of the janitors are somewhat similar to those performed by that class of public officials. They sweep out and dust and clean up the offices and court rooms. Their duties are, therefore, of such a character that the qualifications for such a place cannot be determined by a competitive examination.

Their duties also require them to be custodians of city property, such as law books, furniture and legal papers. We submit that the janitors of these courts have for years faithfully performed the duties without examination, to the satisfaction of the public, and considering the character of their employment, we respectfully urge that the board transfer them from the competitive to the non-competitive list.

Respectfully submitted.

WAUHOPE LYNN,
Justice First District Court.

CHARLES M. CLANCY,
Justice Second District Court.

ALFRED STECKLER,
Justice Fourth District Court.

HENRY M. GOLDFOGLE,
Justice Fifth District Court.

JOHN B. McKEAN,
Justice Seventh District Court.

JOHN JEROLOMAN,
Justice Eighth District Court.

JOSEPH P. FALLON,
Justice Ninth District Court.

WILLIAM G. McCREA,
Justice Tenth District Court.

THOMAS E. MURRAY,
Justice Eleventh District Court.

At a meeting of the Commission held October 26, 1892, it was *Resolved*, That the position of court janitor be, and hereby is, included in Schedule C of the State Classification. (Approved by the Governor, October 28, 1892.)

Chief Clerk Department State Engineer, Classified.

OFFICE OF THE STATE ENGINEER AND SURVEYOR,
ALBANY, N. Y., *November* 28, 1892.

To the Honorable the Civil Service Commission:

GENTLEMEN. — I have the honor to request that the present classification by which the office of chief clerk in this department is now placed in Schedule E, be so changed that it may be placed in Schedule C. As the occupant of this desk has close and confidential relations with the head of this department, I am thoroughly convinced that the efficiency of the public service would be enhanced by making the change asked for.

By an examination of your records you will perceive that all similar positions in the other State offices are classified either in Schedule A or Schedule C, and that in making this request I do not ask you to adopt a new precedent, but simply to apply to this department the rules already applied to all other departments at the head of which is an elective State officer.

Very respectfully yours.

M. SCHENCK,

State Engineer and Surveyor.

At a meeting of the Commission held December 2, 1892, it was

Resolved, That the position of chief clerk in the office of the State Engineer and Surveyor be and hereby is included in Schedule C of the State Classification. (Approved by the Governor December 3, 1892.)

Corporation Bookkeeper, Office of Secretary of State Classified.

At a meeting of the Commission held December 2, in accordance with the direction of the Governor, it was

Resolved, That the position of corporation bookkeeper in the office of the Secretary of State, be and hereby is included in Schedule C of the State Classification. (Approved by the Governor, December 3, 1892.)

Examination Clerk, Department Public Instruction Classified.

Department of Public Instruction,
Albany, N. Y.

To the Civil Service Commission:

Gentlemen.—I beg permission to place before your honorable body for consideration a few facts in connection with the duties of the person holding the position in this department, known as "Examination Clerk."

1. The duties differ widely from those of an ordinary clerkship. The work and management of the affairs entrusted to this clerk are mainly of a confidential character and require a degree of confidence and secrecy in their execution that is of vital importance to the successful operation of the system of public instruction.

2. The examination clerk has charge of all the examination papers pertaining to uniform examinations of candidates for teacherships, State certificates and Cornell free scholarships. He is the custodian of these papers and has the distribution of them. Great harm would result should any of them be purloined, or their contents divulged to anyone outside of the department before an examination. A breach of this trust would demoralize the whole system of competitive examinations and bring reproach upon the department. The superintendent is responsible for the faithful and conscientious performance of this part of the educational work of the State, but is compelled to entrust it, in part, to an assistant. With these facts in view I submit to you, and suggest, most respectfully, the propriety of placing this clerkship in "A" class.

I am, dear sirs,
Yours obediently,
J. F. CROOKER,
Superintendent.

At a meeting of the Commission, held December 22, 1892, it was

Resolved, That the position of examination clerk in the Department of Public Instruction, be and hereby is included in Schedule C of the State Classification. (Approved by the Governor, December 23, 1892.)

TABLE SHOWING CHANGES IN THE CIVIL SERVICE CLASSIFICATION.

			SCHEDULES.	
			A.	C.
1892.				
February	4	Confidential clerk, Department State Geologist	1	.....
March	11	Director of examinations, Regents of the University	1	.....
April	23	Voucher clerk Comptroller's office	....	1
April	30	Confidential clerk, Adjutant-General's office	1	.....
June	28	Adjutant, Soldiers' and Sailors' Home,	1	.....
June	28	Confidential assistant to Superintendent State Reformatory, Elmira	1	.....
July	25	Financial clerk, Department of Public Instruction	1	.....
August	17	Assistant commissioners, Department of Dairy Commissioner	10	.....
		Experts and agents Department of Dairy Commissioner	31	.....
		Cheese experts and instructors, Department of Dairy Commissioner	3	.....
		Vinegar experts, Department of Dairy Commissioner	2	.....
		Chemists, Department of Dairy Commissioner	4	.....
August	18	Assistant secretary, State Board of Health	1	.....
October	28	Court janitors	....	14
December	3	Chief clerk, Department of State Engineer and Surveyor	....	1
December	3	Corporation bookkeeper, Department of Secretary of State,	....	1
December	23	Examination clerk, Department of Public Instruction	....	1
		Totals	57	18

REQUESTS FOR CHANGES IN THE CLASSIFICATION NOT GRANTED.

NEW YORK, *January* 19, 1892.

To the Honorable the State Board of Civil Service Commissioners:

GENTLEMEN.— We, the undersigned, Justices of the several judicial district courts in the city of New York, respectfully request that the position of janitor of the district courts be made non-competetive or be exempted from civil service examination for the following reason: That the janitors of said courts must be persons of good character, sober and reliable, they having charge of the library and other valuable letters and documents.

Your earliest attention is respectfully requested.

Respectfully.

PETER M. MITCHELL,
Justice First Judicial District Court.

CHARLES M. CLANCY,
Justice Second Judicial District Court.

WILLIAM F. MOORE,
Justice Third Judicial District Court.

ALFRED STECKLER,
Justice Fourth Judicial District Court.

HENRY M. GOLDFOGLE,
Justice Fifth Judicial District Court.

SAMSON LACHMAN,
Justice Sixth Judicial District Court.

JOHN B. McKEAN,
Justice Seventh Judicial District Court.

JOHN JEROLOMAN,
Justice Eighth Judicial District Court.

JOSEPH P. FALLON,
Justice Ninth Judicial District Court.

At a meeting of the Commission held February 16, 1892, it was

Resolved, That a respectful communication be addressed to the petitioners stating that the reasons presented do not seem to the Commission sufficient to warrant a recommendation to the Governor for the change in the State classification requested, transferring the position of court janitor from the competitive to the non-competitive schedule.

COMPTROLLER'S OFFICE,
ALBANY, *March* 8, 1892.

To the Honorable the Civil Service Commission, Albany, N. Y.:

GENTLEMEN.— I have the honor to inform you that the constant growth of business in the corporation tax department of this office necessitates an increase in the present clerical force in that department, and it is necessary that an additional clerk be appointed at once.

It is essential that the appointee be a man of more than ordinary business ability; that he be entirely trustworthy, and as the relations between him and the department are to be of a confidential nature, I respectfully request that the position be exempted from competitive examination.

Very respectfully yours.

FRANK CAMPBELL,
Comptroller.

COMPTROLLER'S OFFICE,
ALBANY, *May* 13, 1892.

To the Honorable the Civil Service Commission, Albany, N. Y.:

GENTLEMEN.— I repectfully request that Mr. Samuel A. Skinner, of Little Falls, N. Y., be permitted to take a non-competetive examination for a clerkship in the tax department of this office.

It is imperative that the vacancy caused by the recent resignation of Charles W. Gibbs, a clerk in this department be filled at once.

Very respectfully yours.

FRANK CAMPBELL,
Comptroller.

At a meeting of the Commission held June 7, 1892, it was

Resolved, That the secretary be directed to reply to the letter of Comptroller Campbell under date of March 8, 1892, requesting that the office of assistant corporation tax clerk be exempted from competitive examination, and inform him that the Commission is not satisfied, from the information it now possesses, that the office cannot satisfactorily be filled by a competitive test and therefore feels compelled to deny the application.

Resolved, That the secretary reply to the communication of Comptroller Campbell under date of May 13, 1892, in which he requests that Samuel A. Skinner be permitted to take a non-competitive examination for a clerkship in the tax department, informing him that under the Civil Service Rules the office of tax clerk is in the competitive schedule and that the appointment should be made by selection from the eligible list now on file in the office of the commission.

STATE REFORMATORY,
ELMIRA, *April* 12, 1892.

CLARENCE B. ANGLE, Esq., *Secretary Civil Service Commission,*
Albany, N. Y.:

DEAR SIR.— Replying to yours of the eleventh. The duties of school secretary are, to be here at 6.30 in the morning and assume certain police duties in connection with the opening of the prison and the distributing of the men to the various industries, trades, etc; to remain on duty in the general office supervising the school records with the individual pupils, numbering now over 1,300; supervising also more or less the marking system, which is so intimately connected with the school records that it cannot be disassociated. He will be required to have charge of the training of pupil teachers in a normal class to be held once or twice a week, in preparation for efficient work in the instruction of the primary pupils, and to supervise the whole school work by pupil teachers and teachers employed from the outside who come in to teach at evening; to do all the detailed work in connection with the frequent regrading of the pupils, and the reorganization of the classes at the beginning of the several terms of the year. To supply the place of any teacher when he is absent, and to arrange, under the direction of the general superintendent, new and improved methods and courses of study, and to lecture himself on such topics as he is competent to discuss, and to aid in inspiriting and making effectual this important part of the management of the reformatory, namely, the educational work in the school of letters.

In the selection of a school secretary, whose specified work is outlined above, it is important that he should be of good physique, so as to add to the moral, vital, as well as the physical force resident here for the government and discipline of the place. He must be a man of clean character, of unexceptional habits. I would not employ a school secretary who uses tobacco or who takes a glass of beer, although I am not a bigot on such matters myself. It would seriously detract from his usefulness about the place.

I have in contemplation, when I find my man, to guard a possible vacancy, temporary or otherwise, in my own position as general superintendent. That is to say, an intelligent man with the character above named could easily relieve the general superintendent of some of his desk work, which is of a delicate and somewhat intricate character, and so be prepared to tide over an exigency of the absence of the general superintendent.

I think I should be able to supply this place satisfactorily if the Civil Service Commission would give their consent for me to make the selection and have a non-competitive examination, for a salary of a thousand dollars.

Trusting I have answered your inquiry fully and satisfactorily, and that I may have an early and favorable response to my request, I am,

Yours truly.
Z. R. BROCKWAY,
General Superintendent.

At a meeting of the Commission held June 7, 1892, it was

Resolved, That the secretary be directed to reply to the letter of Superintendent Brockway, under date of April 12, 1892, requesting that the position of "School secretary" in his institution be classified in the non-competitive schedule, and inform him that the commissioners are not satisfied that the office cannot be satisfactorily filled by a competitive test and that the application is therefore denied.

Office of the Secretary of State,
Albany, N. Y., *June* 15, 1892.

To the Honorable the Civil Service Commission of the State of New York:

Gentlemen.— In connection with the recent enumeration work in this office there remains some typewriting work in collating names from the enumeration returns of public institutions of the State which we desire to complete, that the names of all inhabitants belonging to the cities and towns of the State may be brought together for the purpose of the completion of the volumes of the returns for binding, to be deposited when so completed in the State Library.

This work can be completed more speedily and more satisfactorily by the employment of not exceeding four of the persons who were heretofore engaged in the temporary work of making up the returns as reported to the Legislature in April.

The familiarity acquired by these persons with the enumeration rolls warrants us in asking that your Commission and the Governor permit this office to secure at once the temporary service of not exceeding four persons, whose services are now available and who were formerly engaged on this work.

We trust that our request in this matter may be speedily granted.

Very respectfully.

FRANK RICE,

Secretary of State.

At a meeting of the Commission held June 30, 1892, the above letter was ordered filed and the secretary was directed to reply thereto, saying that the Commission is of the opinion that it has no power to grant the request, and it believes that suitable persons for the work mentioned can be secured from the present eligible lists.

Comptroller's Office,
Albany, *June* 14, 1892.

To the Honorable Civil Service Commission, Albany, N. Y.:

Gentlemen.— I hereby respectfully request that the position of entry clerk in this Department be exempted from competitive examination.

The entry clerk keeps the accounts of all moneys received and paid out, and enters all warrants, checks and receipts for moneys. He assists the warrant clerk in the preparation of warrants, and performs the duties of warrant clerk during the absence of the latter, and he must be familiar with legislation authorizing the expenditure of the funds of the State, and have a practical knowledge concerning the numerous intricate questions daily arising in regard to the work at his desk.

The appointee to this position must have the absolute and unqualified confidence of the head of the Department. His previous associations, training and habits must be known.

Ability to pass the most rigid civil service examination furnishes but one of the many necessary requirements in order to acceptably fill this place. I would be pleased if your honorable board would give this application your early and favorable consideration.

Very truly yours.

FRANK CAMPBELL,

Comptroller.

At a meeting of the Commission held July 22, 1892, the above letter was read, and the secretary was directed to address a letter to the Comptroller to the effect that the present Commission upon the occasion of a similar application by his predecessor in office, Comptroller Wemple, examined at length into the propriety of the proposed change in classification of the office of entry clerk, and became satisfied that the same was properly classified in the competitive schedule; that no reasons are urged by Comptroller Campbell in addition to those advanced by Comptroller Wemple, except that "He assists the warrant clerk in the preparation of warrants, and performs the duties of the warrant clerk during the absence of the latter," which is not deemed substantial in view of the fact that the office of warrant clerk is itself subject to competitive test; that the Commission is of the opinion that the office of entry clerk can be filled satisfactorily by competitive test, and if the Comptroller feels that the present eligible list of the Commission does not afford him a class of persons sufficiently skilled for the position named in his communication, and it is his desire to have a special eligible list prepared of persons who shall show themselves possessed of the requisite qualifications, the Commission will take immediate steps for holding the examination with a view to obtaining such a list.

COMPTROLLER'S OFFICE,
ALBANY, *June* 29, 1892.

To the Honorable the New York State Civil Service Commission,
Albany, N. Y.:

GENTLEMEN.— Since the enactment of the original law creating the tax upon inheritances, the work devolving upon this department in the collection of such tax has been performed by the clerks in charge of the collection of the tax upon corporations.

By reason of the additional duties and responsibilities imposed upon this department by chapter 399 of the Laws of 1892, in relation to taxable transfers of property and the constantly increasing importance of the work relating to the collection of the tax upon inheritances, as well as corporations, I deem it desirable and necessary that the two should be separated, and, hereafter, all the duties relating to taxable transfers should be placed in charge of two clerks to be known as the inheritance tax clerk and the assistant inheritance tax clerk.

The State derives a revenue from the tax upon inheritances of more than $1,000,000 per annum, and I believe by a rigid and proper enforcement of the present law the amount can be largely increased.

The duties devolving upon this Department in the enforcement of this law are complicating and exacting, and the selection of the proper persons for the performance of these duties must be made with extreme care. The persons selected to fill these positions must necessarily be familiar with the whole system of the taxation of transfers of property. They will be called upon to interpret the numerous and delicate legal questions that arise, and will be required to examine and pass upon the quarterly reports of the surrogates, treasurers and county clerks, and to be able to determine therefrom whether an estate is taxable, and the amount of the tax correctly ascertained; and in cases where it appears that a tax is due and unpaid, to direct, when necessary, the appropriate legal proceeding for the collection thereof.

I desire to fill these positions with persons whose fidelity and integrity have been tested, and who, by reason of their previous services in this department, have shown themselves to be possessed of the qualifications necessary for the proper performance of the duties they will be called upon to perform. I, therefore, respectfully request that the positions of inheritance tax clerk and assistant inheritance tax clerk be exempt from competitive examination by your honorable board. I desire to make the change herein stated as soon as practicable, and trust that your board will give this application your early and favorable consideration.

Very respectfully yours.
FRANK CAMPBELL,
Comptroller.

At a meeting of the Commission held July 22, 1892, it was

Resolved, That the secretary is directed to reply to the communication of Comptroller Campbell, as follows:

The Commission finds that the chief tax clerk, first assistant tax clerk, corresponding tax clerk, corporation tax clerk and assistant corporation tax clerk are exempt from competitive examination. The Commission is not convinced that the number of exemptions in the tax department in your office should be increased.

The Commission is also informed that the corresponding tax clerk is now performing the duties of inheritance tax clerk. This fact would seem to indicate that possibly there is pressing need for additional exemptions. It may be that there are reasons for the exemption of inheritance tax clerk, but the commission fails to perceive any sufficient ground for the exemption of an assistant inheritance tax clerk. It may be that you will be able to suggest a reclassification of your tax clerks that will give exemption to the inheritance tax clerk without increasing the number of exemptions in your office in the aggregate.

The Commission is of the opinion that the offices of coresponding tax clerk and assistant corporation tax clerk should be restored to the competitive schedule, and if you should suggest a reclassification, with such changes, along with the exemption of chief inheritance tax clerk, the Commission would carefully consider it.

Action of Commission Since Last Annual Report Affecting Local Regulations of Cities.

Mayor's Office, Schenectady, N. Y.,
February 10, 1892.

New York Civil Service Commission, Albany, N. Y.:

Gentlemen. — Herewith inclosed I send you the regulations prescribed by me as mayor for the admission of persons into the public service of the city of Schenectady.

I would be pleased to have your approval at once, if they are satisfactory to you, so that we could at once begin to work under them.

I am, very respectfully yours.

EVERETT SMITH,
Mayor.

Civil Service Regulations of the City of Schenectady.

Pursuant to the statutes of this State to regulate and improve the Civil Service thereof, I, Everett Smith, mayor of the city of Schenectady, hereby prescribe the following regulations for the admission of persons into the public service of the city of

Schenectady, to take effect from the date of their approval by the New York Civil Service Commission:

Regulation I.— These regulations shall apply to all positions in the public service of the city of Schenectady with the following exceptions required by the statutes, namely:

First.— Officers elected by the people, viz.:

Mayor, recorder, treasurer, police justice, three assessors, two justices of the peace, three commissioners of police, three commissioners of excise to be elected by the city at large; and one supervisor, three aldermen, two commissioners of common schools, one constable, two inspectors of election, to be elected in each ward or election district.

Second.— The head or heads of any department of the city government, viz.:

1. Officers appointed by the mayor.

2. Officers elected by the common council of said city, viz.: Three water commissioners, six members of the board of health, a city clerk, a city marshal, a city attorney, a city physician, a city printer, a chief engineer and two assistant engineers, a city surveyor, overseer of the poor, a board of magistrates, pound master, commissioners of deeds, lamplighters, firemen.

3. Persons employed in the educational departments of the city.

Regulation II.— No person in the public service is for that reason under any obligation to contribute to any political fund or purpose, or to render any political service, and no person shall be removed or otherwise prejudiced for refusing so to do.

Regulation III.— No person in the public service has the right to use his official authority or influence to coerce the political action of any person or body.

Regulation IV.— The Civil Service of the city of Schenectady shall be classified as follows:

Schedule A.— Shall include all deputies of officers and commissioners duly authorized by law to act for their principals, and all persons whose official relations are necessarily strictly confidential to the head of the office in which they serve.

Schedule B.— Shall include all clerks, copyists, recorders, stenographers, bookkeepers and others rendering clerical services and not included in Schedule A, and all policemen, firemen, messengers, orderlies, court attendants, guards and keepers in jails and prisons, and all persons employed or appointed in the public service, and not specially included in Schedules A, C and D, viz.: chief of police, assistant chief of police, sergeant of police, policemen, special policemen, clerk to the board of excise, superintendent to the board of water commissioners, clerk to the board of water commissioners, and engineers and firemen of that board, superintendent of hose, superintendent of streets, superintendent of sewers, sealer of weights and measures, city measurer, fence viewer.

Schedule C.— Shall include all persons whose duties are strictly professional and all persons who are employed in private business and occasionally render public service for a nominal compensation.

Schedule D.— Shall include all persons employed as laborers or day workmen.

Regulation V.— The appointments to positions comprised in Schedule A may be made without examination under these regulations, but such examinations may be had upon the request of the appointing officer. Appointing officers must notify the mayor in writing of all appointments to such positions within five days after the same are made, setting forth the full name of such appointee, date and place of birth, length of residence in Schenectady, nature of previous employment, whether he has ever been in official service before, and if so, when and where, date of beginning of service and term for which appointed, salary, name of person in whose place appointed; the same to be duly certified by the appointing officer.

Regulation VI.— Appointments shall be made or employment shall be given in the positions in Schedule B by selection from those persons graded highest as the results of open competitive examinations, provided that vacancies in the higher positions in this schedule may be filled by the promotion of those holding lower positions in the office, department or institution where such vacancies occur, and who have passed an examination under these regulations. The competitive examinations shall be practical in their character, and with a paramount regard to those matters which will fairly test the relative capacity and fitness of the persons examined for the service which they seek to enter. Applications of competitors for positions included in Schedule B must be addressed to the Secretary of the Civil Service Examining Board, Schenectady, N. Y., and the applicant must state therein, on oath, and in his own handwriting —

1. His full name, residence, giving street and street number.
2. His term of residence in the city.
3. His citizenship.
4. His date of birth.
5. His place of birth.
6. His previous employment in the public service, if any.
7. His business or employment for the last preceding five years.
8. The extent, place and nature of his education.
9. If in the military or naval service of the United States in the late war, give name of organization or vessel to which attached, date of enlistment or commission, position or rank, date

and cause of discharge from the service, and any physical disability incurred in such service.

10. Such other information may be furnished as the mayor may reasonably require, touching the applicant's fitness for the public service.

The application must be accompanied by a certificate of a practicing physician of good repute, that he has examined the applicant and found him free from any physical defect or disease that would be likely to interfere with the proper discharge of his duties in the position in the Civil Service sought by such applicant, and by the certificate of not less than three nor more than five reputable citizens of the city, that they have been personally acquainted with the applicant for at least one year, and believe him to be of good moral character, of temperate and industrious habits, and in all respects fit for the service which he wishes to enter, and that they are willing that such certificate shall be published for public information, and will, upon application, give such further testimonials in regard to such applicant as may be required. The applicant must also state in his application the position he seeks.

Regulation VII.— Defective applications will be suspended and applicants notified to amend the same; but no such notice will be given or opportunity granted a second time. The date of the reception of all applications shall be indorsed thereon and entered of record, and if the applicants for admission are in excess of the number that can be examined at a single examination, they will be notified to appear in their order on the respective records.

Regulation VIII.— For the purpose of ascertaining the qualifications of persons seeking or named for positions in the departments and offices of the municipal government, to which these regulations apply, there shall be a board of examiners, composed of three citizens of the city of Schenectady, N. Y., designated by the mayor, and not more than two of whom shall belong to the same political party. The mayor may at any time substitute another citizen in the place of any one so designated, by filing with the city clerk a written notification of such change, and will detail or employ a clerk who shall act as the secretary of the examining board. It shall be the duty of such board of examiners to conduct all examinations called for under these regulations, to ascertain the fitness of candidates for the service of the city, in respect to character, knowledge and ability for the branch of the service into which they seek to enter, and to estimate and determine the relative excellence or standing of the persons examined, and to certify the same in such manner and form as may be prescribed. Whenever the special qualifications required for a position are of an expert or professional character, the mayor will give to the examining board such advice and assistance from competent sources as may be expedient and available. The secretary of the board shall keep the minutes of its proceedings and all necessary records of applicants, their examinations and standings, and a complete record of all persons employed in the several departments to which these rules apply, and of all appointments, promotions, dismissals, resignations and changes of any sort therein. When not in attendance upon the examining board, the secretary will act under the direction of the mayor.

Regulation IX.— Whenever the demands of the service may require, the examining board will notify the applicants on record, or such number thereof as can be examined conveniently at one time, to appear for examination, giving place, date and hour for such examination.

Regulation X.— Under the direction of the mayor, the board of examiners will prepare lists of subjects of examination for admission to the several positions in Schedule B, and such lists shall comprise obligatory subjects upon which each applicant must be examined; to such lists of obligatory subjects there may be added certain other subjects in which the applicant may be examined or not, at his option. The general standing of each applicant shall depend solely upon his relative proficiency in the obligatory subjects; for the purpose of determining the general average standing, certain relative weights will be given to the obligatory subjects, which weight shall be adjusted to the relative importance of the subjects.

Regulation XI. No person whose standing on any obligatory subject is less than fifty, or whose ascertained average standing on all the the obligatory subjects is less than seventy, will be entered upon the eligible list.

Regulation XII. The names of the persons who have passed above the minimum as set forth in the previous regulation, will be entered upon a register in the order of their excellence, and oppposite each name will be entered the standing of such person in each optional subject in which he may have been examined.

Regulation XIII. 1. Whenever any officer having the power of appointment to or employment in any position in Schedule B shall so request, the board of examiners shall certify to him the names of three eligible persons who are graded highest on the proper register, indicating such of them, if any, as have been honorably discharged from the military or naval service of the United States in the late war.

2. From the three persons whose names are so certified, the officer shall make a selection to fill the vacant place, subject, however, to the provisions of law, giving preference to persons who

have been honorably discharged from the military or naval service of the United States in the late war.

3. Whenever such request shall indicate that profiency in any of the specified optional subjects is of prime importance in the position to be filled, the board of examiners will certify the names of the three persons on the eligible list having the highest standing, not below the minimum of seventy, in such optional subject. The mayor shall have power to order a new or special examination whenever there are no persons on the eligible list sufficiently qualified in such optional subjects.

4. In the selection from the persons whose names are certified as above, the appointing or employing officer, upon his written requisition, therefor, will be furnished with the application and examination papers of all the persons so certified and in the exercise of his responsible power of selection, he may summon personally before him the certified persons, for such verbal inquiry as he may deem proper. All papers furnished upon requisition as above, must be returned to the secretary of the examining board.

Regulation XIV. Whenever physicial qualifications are of prime importance to the proper discharge of the duties in any position, applicants must pass an additional examination as to their physical condition and capacity, and be certified as qualified in such respects before recorded on the proper eligible list for selection for the position, or before certification by the board of examiners as qualified for such selection.

Regulation XV.— 1. No person on any register shall be certified more than three times to the same officer, except upon the request of such officer, nor shall any remain eligible more than two years on any register.

2. Upon satisfactory evidence produced to the mayor that any person whose name is on any eligible list is, by reason of character, habits or past reputation, unfit for admission to the public service, the name of such person shall be formally stricken from such eligible list.

3. No person who has entered upon any examination for a position in Schedule B or Schedule C shall be admitted within one year from the date thereof to a new examination for the same grade of position.

Regulation XVI.— The positions in Schedule C may be filled by the appointing officer, in his discretion, in respect to the method of examination; the discretion of the officer in such cases shall be limited as follows:

1. He may select from the three persons graded highest as the result of an open competitive examination; or

2. He may name to the examining board three or more persons for competitive examination, and appoint the one graded highest in such examination; or

3. He may appoint or employ any person named by him who, upon a non-competitive examination, shall be duly certified by the examining board as qualified to discharge the duties of the position.

Regulation XVII.— Upon the non-competitive examination into the qualifications of a person named to the examining board for a position in this schedule, it will give a certificate to such person only when satisfied (1st), that he is within the limits of age prescribed for the position or employment to which he has been named; (2d), that he is properly certified as free from any physical defect or disease which is likely to interfere with the proper discharge of his duties; (3d), that his character is such as to qualify him for such position or employment; and (4th), that he possesses the requisite knowledge and ability to enter on the discharge of his official duties. An officer naming to the examining board a person for examination will at the same time transmit his certificate, that after due inquiry he is satisfied that the character and habits of the person named fit him for the public service, and will append to the certificate such formal vouchers or credentials as to character as he may desire to have considered or to put on file. In the determination of the character or habits of the nominee, the certificate thereof by the nominating officer will be considered as essential.

Regulation XVIII.— Whenever a vacancy in this schedule in any department, office, or institution is to be filled, the officer having the authority to fill the same shall notify the examining board which of the three methods, in his discretion, under Regulation XVI, he selects; and if the choice be by an open competition, the examining board will proceed as for an examination under Schedule B; but if the choice be by a limited competition, or by the appointment of a person to be duly certified by the examining board as qualified, the officer aforesaid shall name in such notification the person or persons to be examined, and the examining board shall notify the person or persons so named of the time, place and special regulations for the examination.

Regulation XIX.— As to appointments coming under Schedule D, no examination shall be required, but all changes in the employes shall be reported to the board of examiners, in order that the record of the civil service of the city may be at all times complete.

Regulation XX.— Every original appointment or employment in Schedules B and C shall be for a probationary term of two months, at the end of which time, if the conduct and capacity of the person shall have been found satisfactory, the probationer shall be absolutely appointed or employed, but otherwise his employment shall cease.

Regulation XXI.— Promotions will in all cases be based upon the positive merit of the person promoted and upon his superior qualifications as shown by his previous service.

Regulation XXII.— No temporary appointment shall be made of any one not eligible for permanent appointment. In case where the mayor is authorized by law to make special appointments for an exigency, he may, if there shall be no eligible list from which he can select, make such appointments without examination for not exceeding two days.

Regulation XXIII.— Transfers of clerks and others included in Schedules B and C may be made from one office or department to another, by the mutual consent of the heads of such offices or departments; every such transfer must be reported to the examining board for record, within five days from the date thereof. No transfer will be permitted from a position enumerated in Schedule B to a position in Schedule C, or from a position enumerated in Schedule C to a position in Schedule B.

Regulation XXIV.— No question in any examination or proceeding shall call for the expression or disclosure of any partisan political opinion or affiliation of any person whatever, nor shall any discrimination be made by reason thereof; and the examiners shall discountenance all disclosure before them of such partisan opinion or affiliation by or concerning any applicant for examination, or by or concerning any person on any register awaiting appointment or employment. In the selection, nomination or appointment of persons to fill positions in Schedules B, C and D no regard shall be paid to the partisan political opinions, affiliation or action of any person so selected, nominated, appointed or promoted.

Regulation XXV.— Every false statement knowingly made by any person in his application for examination, and every connivance by him at any false statement made in any certificate which may accompany his application, or any willful complicity by him in any fraud to improve his standing upon his examination, shall be regarded as good cause for removal or discharge of such person during his probation.

Regulation XXVI.— Persons who have been honorably discharged from the army or navy of the United States in the late war, and whose qualifications and fitness have been ascertained under these rules, by competitive examination, shall be preferred for appointments to positions in the Civil Service of the State over all other persons, though graded lower than the others so examined, and the persons thus preferred shall not be disqualified from holding any position in the Civil Service on account of their age nor by reason of any physical disability, provided such age or disability does not render them incompetent to perform the duties of the position applied for.

When not more than three honorably discharged soldiers or sailors whose qualifications and fitness have been ascertained by competitive examination under the rules, shall be on the eligible list at the time a requisition shall be made for an appointment, the names of all such soldiers or sailors with a specification of their respective grades in such examination, shall be certified to the appointing officer, but when more than three names of such honorably discharged soldiers or sailors shall be on the eligible list, there shall be certified for such appointment not more than two names in excess of the number of places to be filled, and in all such cases the appointment shall be made from among those, not exceeding three in number, thus certified, who are graded highest as the result of competitive examination.

Regulation XXVII.— Subject only to the qualifications required to be ascertained in accordance with these regulations, the power of appointment and the responsibility of selection are in all cases in the appointing officer. The power to remove existing by law on the part of any officer is not impaired by any thing contained in these regulations.

Regulation XXVIII.— No one dismissed from the service for misconduct shall be admitted to examination for appointment in any capacity in any department of the municipal service within two years from the date of such dismissal.

Regulation XXIX.— After these regulations shall take effect no person in the civil service of the city of Schenectady whose position is subject to the regulations, shall be entitled to compensation unless appointed pursuant to these regulations.

In witness whereof, I have hereunto set my hand and the seal of the city of Schenectady, this tenth day of February, 1892.

EVERETT SMITH,
Mayor.

[L. S.]

STATE OF NEW YORK:

Office of New York Civil Service Commission,
Albany, *February* 16, 1892.

The foregoing regulations for the city of Schenectady, having been duly examined, are hereby approved by the New York Civil Service Commission.

CLARENCE B. ANGLE,
Secretary.

[L. S.]

Amendments to Buffalo Regulations.

Mayor's Office, Buffalo, *January* 13, 1892.

To the Civil Service Commissioners of the State of New York:

Gentlemen.— I enclose you herewith the proposed revised rules for admission to the civil service in the city of Buffalo. This revision is made necessary by the enactment at the last session of the Legislature of a new charter for the city of Buffalo, creating some new departments, and making radical changes in the old departments, to such an extent that the schedules now in force are very impracticable.

The changes made in the rules are mainly in the addition to the present schedules of the new positions created by these changes. You will find, however, that I have seen fit to recommend several changes in the rules themselves which I deem to be in the direction of the best administration of municipal affairs.

The first change is in Rule 2, in the statement of what is included in Schedule A. The second subdivision I have changed so as to read as follows: "Second.— The head or heads of any department or bureau of the city government, and their deputy or assistants."

The fourth subdivision I have changed so as to read as follows: "Any subordinate officer who by virtue of his office has personal custody of public moneys or public securities, for the safe keeping of which he or the head of an office is under official bonds and are herein classified under Appendix I."

In making this change I have followed the rule and principle laid down by your commission. On referring to Rule 5 of your rules as they appear in your annual report of 1891 you find the following: "Officers or others under official bonds as security for the collection, custody or disbursement of public moneys." This I believe to be in effect the same as the changed rule as I now recommend it.

The next change is in rule 2, the last paragraph, where I have added, to be inserted after the word "schedule," line 5, "by written designation, approved by the Civil Service Commissioners of the State of New York, and filed with the city clerk."

This change I recommend because of the indefiniteness of the rule and the number of the different opinions it created as to the power of the mayor to make changes.

The next change is after rule 11. I have inserted a new rule 12, providing for necessary physical qualifications of applicants for positions in the fire department. This rule is inserted at the request of the fire commissioners, with the approval of the local Civil Service Commission.

The next change is in old rule 14, new rule 15, in the second paragraph, second line after the word "exhausted," to insert "all persons then upon said eligible list shall be notified and." This change is made to enable persons having passed the examination and not yet having been certified to have the benefit of any new examination ordered rather than be allowed to remain until the two year period has expired, and then be stricken from the list.

The next change is in old rule 25, new rule 26, in the last line after "1883" insert "and chapter 105 of the Laws of 1891." This change is made to make this rule apply to the new charter passed last year.

The next change is in old rule 27, new rule 28, in the first paragraph, line 10, strike out the words "in the same office or department." I recommend this change for the reason that some of the departments in the city do not have but one clerk at a salary of $800, while others have several clerks at salaries as high as $1,200 and $1,500. I believe that promotion should not be confined to the department in which a person accidentally receives first appointment, but that those who by good service deserve promotion should be allowed to be transferred to the different departments, with the consent of the heads of the departments, after passing any qualifying examination that the Civil Service Commission may deem necessary.

These, with a few purely verbal changes and the necessary changes or designations in the schedules, comprise all of the changes in the rules, except that I have recommended the transfer of the office of city chemist and the offices of sealers of weights and measures, from Schedule B to Schedule A.

My reasons for these changes are, in the case of the city chemist that the examinations do not bring forward a sufficient number of candidates to make an eligible list, and the rule is practically a dead letter, and further, that any examination for the office of city chemist to be of any value must be conducted by experts, and is of such a technical nature that it will necessitate considerable expense for the services of the examiners, which I do not believe is warranted. The change of the sealers of weights and measures I recommend because the character of the office has to a certain extent been changed by the new charter. Formerly these officials collected fees for their services and these fees were their only compensation. Under the new charter they receive only salaries and are required to pay over the fees collected by them to the city, thus bringing them within the rule of officials "under official bonds as security for the collection and custody of public moneys."

The offices of boiler inspector and of examiner of stationary engineers have been created since the last rules were formulated and I have placed them in Schedule A. My reasons for doing that are the same as those for transferring the sealers of weights and measures from Schedule B to Schedule A, namely, that they collect fees for their services, which fees they are required to pay over to the city, and are under official bonds for the collection and payment of these fees, and I, therefore, deem them to be within the rule laid down by your commission as exempted from competitive examination.

These changes in the rules I have recommended only because I believe them to be in the direction of the best results, and I trust they will receive the approval of your commission.

Very respectfully,

CHARLES F. BISHOP,

Mayor.

Revised Rules for Admission to the Civil Service of the City of Buffalo.

Mayor's Office, Buffalo, *January* 12, 1892.

Pursuant to section 8, of chapter 354, of the Laws of 1883, as amended by chapters 357 and 410 of the Laws of 1884, I, Charles F. Bishop, mayor of the city of Buffalo, do hereby prescribe the following rules for the admission of persons into the civil service of the city of Buffalo, and for the conduct of persons who may receive appointments in the said service.

These rules shall take effect five days after they have received the approval of the Civil Service Commissioners of the State of New York, and are filed in the office of the city clerk.

Rule I. These rules shall apply to all persons in the public service of the city of Buffalo, except officers elected by the people, and those hereinafter specified in schedule A.

Rule II. The civil service of the city of Buffalo is hereby divided into schedules, A, B, C and D.

Schedule A shall include: First. The subordinates of officers elected by the people, for whose errors or violation of duty said officer is financially responsible. Second. The head or heads of any department or bureau of the city government and their deputy or assistant. Third. Persons employed in or who seek to enter the public service under the educational department of the city. Fourth. Officers or others under official bonds as security for the collection, custody or disbursement of public moneys, or who by virtue of their position have the custody of public moneys for the safe-keeping of which any officer must give bonds, and are herein classified under Appendix I.

Schedule B shall include all the positions to be filled by selections from among those graded highest as the results of open competitive examinations, and are herein classified under Appendix II.

The positions in schedule B are further subdivided as follows:

First grade. Clerks and employes receiving compensation at the rate of $1,200 or less per annum.

Second grade.— Clerks and like employes receiving compensation at the rate of more than $1,200, but not exceeding $2,000 per annum.

Third grade.— Clerks and like employes receiving compensation at the rate of more than $2,000 per annum.

Applications for examinations must state the grade of position for which the applicants seek to compete. Examinations will be based upon the qualifications necessary for each grade. Appointing officers will specify in what grade is the vacancy they wish filled, and the examiners will certify accordingly.

Schedule C shall include all positions not included in schedules A and B, except laborers or day workmen, and are herein classified under Appendix III.

Schedule D shall include all persons permanently employed as laborers.

The above-named appendices are hereby made a part of these rules.

Any new position, or any position in the civil service of the city of Buffalo omitted for any cause from the foregoing schedules or appendices is also included in these rules, and until assigned by the mayor to its proper schedule by written designation, approved by the civil service commissioners of the State of New York, and filed with the city clerk, shall be deemed to be in Schedule B.

Rule III.— For the purpose of conducting the inquiries and making the examinations mentioned in section 8 of the said law as amended, the mayor shall appoint fifteen suitable persons, citizens of Buffalo, at least three of whom shall be physicians, who shall constitute the civil service commission of Buffalo, hereinafter for brevity also called "The Commission," and each member of which shall be known as the Civil Service Commissioner of Buffalo, and for the same purpose shall also, upon the recommendation of the Commission, employ a suitable person who shall act and be known as the secretary of the commission. Not more than eight of the Commissioners shall belong to the same political party, and no one of them shall be otherwise in the service of the city. Each Commisssioner shall, before entering upon the discharge of his duties, take and file with the city clerk, an oath, in the general form prescribed for other city officers.

The mayor may, at any time, by filing with the city clerk and the secretary of the commission a written notification of the change, appoint another citizen in the place of any one so appointed, who shall thereupon cease to be such commissioner. The Commissioners shall serve without pay, and the mayor shall fix the salary of the secretary of the Commission.

The commissioners shall from their number choose a chairman to act during their pleasure; and they may, from time to time, subject to the approval of the mayor, designate committees from their own number, to conduct any of the various examinations and classes of examinations. The schedule of rating of the candidates and the certificate or certificates upon each examination and of recommendation, shall be signed by a majority of the committee, if any, conducting the examination, and be approved by the chairman of the commission. During the absence or inability to act of the chairman, a temporary chairman chosen by the commission from their own number, may, in all respects, act as chairman.

It shall be the duty of the commission to conduct all examinations held under these rules, and to ascertain the fitness of candidates for the service of the city in respect to character, knowledge and ability for the branch of the service into which they seek to enter, and to that end, may require the superintendent of police to ascertain and report to the commission such information as he can obtain concerning the character of candidates, and to estimate and determine the relative excellence or standing of the persons examined, and to certify the same as herein prescribed. The secretary shall keep minutes of their proceedings, and all necessary records of applicants, their examinations and standings, and a complete record of all persons employed in the several departments to which these rules apply, and of all appointments, promotions, dismissals, resignations and changes of any sort therein, and shall render all such service in connection with the conduct of the inquiries and examinations, above mentioned, as may be required of him by the commission.

Rule IV.— These rules shall in no way interfere with the right of any officer or head of department to make dismissals from his department, but all such dismissals shall be certified within ten days to the commission herein provided for and to the city clerk. Every change in the municipal service shall be reported in writing within ten days to the commission by the official in whose department the change takes place.

Rule V.— Appointments to positions in Schedule A may be made without examination; but the appointing officer shall file with the secretary of the commission within ten days after making any such appointment, a formal notification thereof in writing, setting forth the full name of such appointee, date and place of birth, length of residence in Buffalo, nature of previous employment, whether he has ever been in official service before, and if so, when and where, date of beginning of service, and term for which appointed, a specific description of the duties of the position, salary, name of person in whose place appointed, and such other statistical information as the commission may deem proper for registration; the same to be duly certified by the appointing officer.

In these rules the term "appointing officer" shall be construed to include any person, board or commission having the power to appoint to any position in the civil service of Buffalo.

Rule VI.— Every vacancy in Schedule B not filled by promotion shall be filled by selection from those who have passed highest in open competitive examinations, subject to the conditions expressed in the following rules.

Rule VII.— Appointments to positions in Schedule C shall be made by the head of the office or department subject to a qualifying examination only, or in the discretion of such official, they may be offered for open competition, or for limited competition of such persons as may be named by the head of the department; but no person shall receive an appointment to any position in this schedule except upon the certificate of the Commission that such person has been found to be duly qualified. All examinations under this rule shall be conducted under the auspices of the Commission, and shall relate to those matters which will fairly test the relative capacity and fitness of the persons examined to discharge the duties of that service for which they are named, or into which they seek to be appointed. For such purposes the Commission shall be satisfied, and shall so certify, that the person named or applying, is:

First. Within the limits of age prescribed for the situation or employment for which named or applying. All candidates shall be at least 21 years of age, and not more than 60 years of age at the date of their examination.

Second. That he is free from any physical defect or disease likely to interfere with the proper discharge of his duties.

Third. That his character is such as to qualify him for such situation or employment.

Fourth. That he possesses the requisite knowledge and ability to enter upon the discharge of the duties of such situation or employment.

Rule VIII.— Applications for positions included in Schedules B and C must be in the handwriting of the applicant, and be addressed to the "Secretary of the Civil Service Commission, Buffalo, N. Y.," and must be accompanied by the following papers:

First. The affidavit of the applicant that he is a citizen of the United States and has resided continuously in the city of Buffalo for the last preceding year, stating the street and number of his residence, his age and place of birth; the nature of his education and also of his business training and experience, and whether he has ever been in official service before, and if so, when and where; and whether he has ever been discharged therefrom, and if so, the reasons thereof, and also whether he has been honorably discharged from the military or naval service of the United States, in which case the discharge, or a duly authenticated copy thereof, to be submitted with the application.

Second. The certificates of not less than three or more than five reputable citizens of Buffalo, each certifying that he individually has been personally acquainted with the applicant for at least one year, and believes him to be of good moral character, of temperate and industrious habits, and in all respects fit for the service he wishes to enter; that they are willing to answer such detailed questions as may be addressed to them by the Commission in relation thereto, and that all such information may be published in the discretion of the Commission.

Third. The certificate of a practicing physician in good standing, that he has examined the applicant and found him free from any disease or physical defect that would impair his ability to render good and faithful service to the city.

Fourth. The Commission may require such other papers as it may deem necessary for the purpose of examination.

Blank forms of application under this section will be provided by the Commission.

Rule IX.—Registers of all applicants shall be kept by the secretary of the commission. When the applicants on a register for any one position or for several positions for which one examination may be had, are in excess of such number as can be examined conveniently on the same day, the applicants will be notified to appear for examination in their order on the register.

Rule X.—All applicants for appointment as patrolmen in the police department shall be:

First. Citizens of the United States and residents of the city of Buffalo for at least one year next prior to the date of their application.

Second. Not less than 24 nor more than 46 years of age.

Third. Not less than five feet eight inches and not more than six feet three inches in height, and whose weight and chest measure shall conform to their height in not less than the figures shown in the following table:

For height of five feet eight inches, 140 pounds, thirty-four inches.

For height of five feet nine inches, 145 pounds, thirty-four and one-half inches.

For height of five feet ten inches, 150 pounds, thirty-five inches.

For height of five feet eleven inches, 155 pounds, thirty-five and one-half inches.

For height of six feet, 160 pounds, thirty-six inches.

For height of six feet one inch, 165 pounds, thirty-six and one-half inches.

For height of six feet two inches, 170 pounds, thirty-seven inches.

For height of six feet three inches, 175 pounds, thirty-seven and one-half inches.

Fourth. Have certificates of character and habits satisfactory to the commission.

Fifth. Are of good health, sound body and mind, and without hereditary tendency to any disease liable to impair their usefulness as patrolmen.

Except that any applicant who has served upon the police force of this city, and who has resigned therefrom with no charges pending against him, and whose record with the police department remains honorable, may, by consent of the commission, be exempted from the provisions of subdivisions second and third of this rule, as to maximum age and minimum height.

This rule shall not contravene the provisions of the statute, as stated in Rule XXI, with relation to soldiers and sailors of the late war, honorably discharged.

Rule XI.— The following shall be the general plan and scope of examinations for admission to the police department:

I.

PHYSICAL QUALIFICATIONS.

1. General health (value)	4
2. Strength and agility (value)	2
3. Eyesight (value)	2
4. Hearing (value)	2
Total of values	10

Each to be marked upon a scale of 100 (which number represents the maximum), and average to be ascertained by multiplying the standing of the applicant in each qualification by the value of said qualification, as indicated above, and dividing the united products by the sum of values, ten.

II.

GENERAL QUALIFICATIONS.

1. General character: To include habits and reputation, and to be ascertained in such manner as the examining board may determine.

2. Experience: Obtained either in actual service as a police officer or in other occupation tending to qualify for such service.

3. Obligatory subjects:
   - a. Reading from print and manuscript.
   - b. Handwriting, as shown by copying from manuscript.
   - c. Writing from dictation.
   - d. Spelling as shown by writing from dictation.
   - e. Arithmetic. Addition, subtraction, multiplication and division, applied to whole numbers.
   - f. Police rules and regulations.
   - g. Questions relating to Buffalo city government, location of streets, etc.

III.

The relative weight given to the several obligatory subjects in making up the average standings, will be as follows.

a. Reading	2
b. Hand-writing	2
c. Writing from dictation	1
d. Spelling	1
e. Arithmetic	1
f. Police rules and regulations	2
g. Buffalo data	1
Total of weights	10

IV.

Each qualification or subject coming under the jurisdiction of the mental examiners to be marked upon a scale of 100, which number represents the maximum.

In making up the general average of the standing of the applicant the relative value of each qualification and subject will be as follows:

Physical qualifications	28
General character	25
Experience	24
Obligatory subjects	23
Total of values	100

The general average will be ascertained by multiplying the ascertained average standing of the applicant in each qualification by the value attached thereto, and dividing the united products by 100

V.

No person whose standing on any of the qualifications or obligatory subjects enumerated above is less than fifty, or whose ascertained average on all is below seventy, shall be placed upon the eligible list.

Rule XII.— All applicants for appointment as firemen in the fire department, shall be:

First. Citizens of the United States and residents of the city of Buffalo for at least one year next prior to the date of their application.

Second. Not less than twenty-four nor more than forty-six years of age.

Third. Not less than five feet seven inches and not more than six feet four inches in height, and whose weight and chest measure shall conform to their height in not less than the figures shown in following table:

For height five feet seven inches, 135 pounds, thirty-three inches.
For height five feet eight inches, 140 pounds, thirty-four inchs.
For height five feet nine inches, 145 pounds, thirty-four and one-half inches.
For height five feet ten inches, 150 pounds, thirty-five inches.
For height five feet eleven inches, 155 pounds, thirty-six inches.
For height six feet, 160 pounds, thirty-six and one-half inches.
For height six feet one inch, 165 pounds, thirty-seven and one-half inches.
For height six feet two inches, 170 pounds, thirty-eight inches.
For height six feet three inches, 175 pounds, thirty-nine inches.
For height six feet four inches, 180 pounds, forty inches.

Fourth. Have certificates of character and habits satisfactory to the Commission.

Fifth. Are of good health, and sound body and mind, and without hereditary tendency to any disease liable to impair their usefulness as firemen.

Except that any applicant who has served upon the fire department of this city, and who resigned therefrom with no charges pending against him, and whose record with the fire department remains honorable, may, by the consent of the commission, be exempted from the provisions of subdivisions second and third of this rule, as to maximum age and minimum height.

This rule shall not contravene the provisions of the statute, as stated in rule XXI, with relation to soldiers and sailors of the late war, honorably discharged.

Rule XIII. The following will be the general scope and plan of the examination for admission to the fire department.

I.

Physical Qualifications.

1. General health (value)	4
2. Strength and agility (value)	2
3. Eyesight (value)	2
4. Hearing (value)	2
Total of values	10

Each to be proved or demonstrated in such manner as may be required by the commission, and to be marked upon a scale of 100 (which number represents the maximum), and average to be ascertained by multiplying the standing of the applicant in each qualification by the value of said qualification, as indicated above, and dividing the united products by the sum of values, ten.

II.

General Qualifications.

1. General character: To include habits and reputation, and to be ascertained in such manner as the commission may determine.

2. Experience: Obtained either in actual service as a fireman, or in other occupation tending to qualify for such service, and to be proved or demonstrated in such manner as may be prescribed by the examiners.

3. Obligatory subjects:
   a. Reading from print and manuscript.
   b. Handwriting, as shown by copying from manuscript.
   c. Writing from dictation.
   d. Spelling as shown in writing from dictation.
   e. Arithmetic: Addition, subtraction, multiplication and division, as applied to whole numbers.
   f. Fire department rules and regulations, and reading fire alarms.
   g. Buffalo data: Questions relating to location of streets, public buildings and fire alarm boxes.

III.

The relative weight given to the several obligatory subjects in making up the average standing will be as follows:

a. Reading	2
b. Handwriting	2
c. Writing from dictation	1

d. Spelling	1
e. Arithmetic	1
f. Fire department rules and regulations, etc	2
g. Buffalo data	1
Total of weights	10

IV.

Each qualification or subject above named shall be marked upon a scale of 100, which number represents the maximum.

In making up the general average of the standing of the applicant, the relative value of each qualification and subject will be as follows:

Physical qualifications	28
General character	25
Experience	24
Obligatory subjects	23
Total of values	100

The general average will be ascertained by multiplying the ascertained average standing of the applicant in each qualification by the value attached thereto, and dividing the united products by the sum of the values, 100.

No person whose standing on any of the qualifications or obligatory subjects enumerated above is less than fifty or whose ascertained average on all is below seventy, shall be placed on the eligible list.

Rule XIV.— All applicants for positions requiring the appointment of physicians or surgeons shall present satisfactory evidence that they are duly authorized by the laws of the State of New York to practice medicine and surgery; but no distinction shall be made in favor of any particular school of medicine.

If the position to be filled is that of city chemist, the applicant must produce satisfactory evidence that he is a practical chemist of experience.

Rule XV.— An eligible list shall be prepared by the commission, from time to time, as the needs of the service require, upon competitive examination for each of the different grades in Schedule B, from the candidates who have been found to be duly qualified for the positions for which such eligible list is prepared, and in the order of merit as shown by the respective percentages of their aggregate markings. Such eligible list shall be open for inspection to all citizens at the office of the secretary of the commission.

Where an examination for any grade is had before the eligible list for that grade is exhausted, all persons then upon such eligible list shall be notified, and a new eligible list shall be prepared after such examination, to take the place of the former eligible list; the persons upon the former eligible list who have not been examined for the new eligible list shall, unless a period of two years from the date of their original examination has elapsed, be respectively placed upon the new eligible list in the position to which the percentage of their aggregate markings upon the former examinations would entitle them.

After remaining two years from the date of his examination eligible to appointment, the name of any person shall be stricken from the eligible list.

Rule XVI.— The actual conduct of every examination shall be under the responsible direction of the commission or of its designated members, free from the interference or participation or influence of the appointing officer, or of any person other than assistant examiners or experts directly employed by the commission. The commission is hereby authorized to employ such assistants and experts. All examinations shall relate to those matters which will fairly test the relative capacity and fitness of persons examined to discharge the duties of that service to which they seek to be appointed. Excepting as these rules otherwise provide, the commission may, in the examinations, give the relative importance to the different subjects or matters of examination, whether mental or physical, or in experience, occupation or training, as to it may seem fit. The commission, or its members conducting any examination, shall fix as to such examination, a minimum general rating not below seventy per cent of the maximum; and any applicant receiving less than such minimum shall not be placed upon the eligible list. At or before the commencement of every examination, the weight to be given to every subject included in the examination and the general or average minimum, and the minimum, if any, allowable upon each subject, shall be announced to the applicants. The appointing officer may prescribe to the commission, and upon their request, he shall state to the commission, so far as is consistent with these rules, the general qualifications or attainments, physical or mental, or both, and the experience he deems necessary or proper to be possessed by the persons filling the position for which an eligible list is to be formed, and also of what age such persons should be.

Rule XVII. Whenever a vacancy shall occur in a position within any grade in Schedule B, which in the opinion of the appointing officer the welfare of the city requires to be filled, and where under these rules the appointing officer can not himself fill such vacancy by promotion, the appointing officer shall notify the commission of the vacancy. The commission thereupon, and in every case where an appointing officer shall notify the commission of a vacancy in any position within any grade in Schedule B, shall, as soon as practicable certify to the appointing officer for appointment from the eligible list appropriate to such position as it may then exist, the three persons having the highest standing on such eligible list. The certificate of the commission shall state the percentage of the maximum obtained by each of the three persons on his examination, and the names and addresses of the citizens certifying to his character and habits. The appointing officer shall thereupon appoint to the vacant position one of the three persons so certified to him by the commission, and shall at once notify the commission of the appointment. Such appointment, however, being subject to the probationary periods prescribed under these rules.

Where an eligible list is exhausted, except as to one or two candidates, the commission may in its discretion certify such remaining one or two candidates without waiting to enlarge the eligible list by further examination, unless the appointing officer requires that three names be presented to him. In such case, the commission must forthwith hold a further examination, so as to be able to certify three candidates.

Rule XVIII. If the appointing officer shall require in any position within any grade of Schedule B, attainment in one or more special subjects designated by him, the commission shall return from the eligible list of persons for positions in such grade the names of the three persons whose standing is the highest in the special subjects so designated, and the vacancy shall be filled by the appointment of one of those three persons; but the commission may at any time hold a competitive examination to fill a vacancy in a position in such a grade requiring such attainments in one or more of the especial subjects, if in the judgment of the appointing officer no one upon the eligible list is well qualified to fill the vacant position. In such case the appointment shall be given to one of the three passing the highest in the competition; and an eligible list for such position and for like positions shall be made from such competitive examination, and shall from time to time be replenished from like examination.

Rule XIX.— No examination shall be required for appointments under Schedule D. But all changes in the employes under that schedule shall be reported by the appointing officer to the Commission in accordance with Rule IV, in order that the record of the public service may be at all times complete.

Rule XX.— Candidates shall be certified from the eligible list without reference to the date of their examination.

Whenever there are two or more vacancies in positions in any grade in Schedule B, the appointing officer shall so notify the Commission, and the Commission shall thereupon, in the first instance, certify, pursuant to Rule XVI, to the appointing officer, the names of the three persons having the highest standing on the eligible list appropriate to such position. The appointing officer shall thereupon appoint one or more of such persons to fill said vacancies and shall notify the Commission of his action. If all the positions shall not thus be filled, the Commission shall thereupon certify the names of the three persons having the highest standing remaining on such eligible list, except that not more than two of them shall have been previously certified for the same positions and rejected; and for this purpose, as between persons who may have been so previously rejected, they shall certify those having the highest standing; but no person shall be certified more than three times to the same appointing officer for a position of the same grade, except at the latter's request. If all the positions shall not be filled from the second list of names so certified, the same process shall be continued until the positions shall be filled.

The foregoing method of procedure, and the principles embodied in this rule, shall be followed in all cases not expressly provided for, except so far as the same shall be necessarily superseded by the provisions of Rule XXI, and of the laws of the State of New York relating to the preferences of honorably discharged soldiers and sailors.

Rule XXI.— Where the employment of a person in any grade of Schedule B is terminated because the work upon which he is engaged is suspended, and the head of the department so certifies to the Commission, and further certifies that such person has faithfully and satisfactorily performed the duties of his position during his employment, which certificate the head of the department shall give in proper cases, then the person shall thereupon resume upon the eligible list from which he was appointed the position thereon to which his original marking or rating entitled him, and may be thereafter certified for appointment in all respects as if he had been placed upon such eligible list on the date of such termination of his employment, the two years provided in Rule XIV, not to be deemed to begin until such date.

Upon receiving a permanent appointment to a position permanent in its character, the candidate's name shall be stricken from the eligible list from which he was appointed.

Where a person is appointed for a definite time, under these rules, to any position in the civil service, they may be reappointed at the expiration of that time to the same position without further examination; provided he has served the time for which he was appointed.

Rule XXII.— Whenever there shall be on any eligible list one or more persons who served in the army or navy of the United States in the late war, and have been honorably discharged therefrom, and whose qualifications and fitness have been ascertained under these rules by competitive examination, and who shall be entitled to a preference for appointment to positions covered by these rules, under the provisions of section IV, of chapter 410, of the Laws of 1884, as amended by chapter 29, of the Laws of 1886, or under any other law of the State of New York, such persons alone shall be certified to the appointing officers to fill any vacancies of which the commission shall be notified ,and the facts bringing such persons within this rule shall be properly stated in the certificate. The persons thus preferred shall not be disqualified from holding any positions in the civil service on account of their age, nor by reason of any physical disability, provided such age or disability does not render them incompetent to perform the duties of the position applied for. As between several persons on the eligible list entitled to a preference under said laws, the same principles and the same forms and methods of certification and appointment, which are prescribed in Rules XVI and XIX, and elsewhere in these rules, shall be followed as nearly as practicable; but so long as there shall be any names on the eligible list of persons entitled to such preference, no other names than those of the persons entitled to such preference shall be certified to the appointing officer.

Rule XXIII.— If the rate of compensation for a position within any grade of Schedule B be increased beyond the rate or limit of rate of compensation for that grade, the position, by virtue of such increase, shall be deemed placed in a grade of Schedule B, corresponding to his increased compensation, and the person holding the position in the former grade shall not be transferred with or to the position when so placed in a higher grade, until he shall have passed a qualifying examination by the commission for the position in the higher grade. But nothing in these rules contained, in cases where, in the judgment of any appointing officer, by reason of increase in efficiency or merit, or by reason of length of service, the compensation of any person holding such a position, in any grade of Schedule B, ought to be increased, shall prevent such appointing officer from making such increase within the limit of the maximum so specified for such grade.

Nor shall anything in these rules be deemed to prevent an increase of salary by virtue of length of service, where such increase is provided by law.

Rule XXIV.— Where a person on an eligible list shall twice decline to accept an appointment, whether temporary or permanent, to a position permanent in its nature, and upon request of the commission, shall not explain such declination satisfactorily to the commission, the commission shall strike his name from the eligible list.

All appointments to positions in Schedules B and C shall be made upon a probationary term of two months except upon the fire force. Any one failing to receive permanent appointment (the position itself being permanent), for good cause, at the end of two months, shall be ineligible for one year for a new examination for the same position under these regulations. It shall be the duty of the appointing officer at the end of a probationary term to certify to the commission that he has made or refused a permanent appointment, and, in case of his refusal, the cause thereof, in order that the commission may decide whether the person to whom he has refused such permanent appointment be so ineligible for one year.

Rule XXV.— Before an appointment to a position in the fire department is definitely made, the fire commissioners may require that the person whom they contemplate appointing of those certified to them from the eligible list shall serve for a probationary period, limited by their discretion and until appointed by them, and if at the end of such period, the fire commissioners become satisfied that such person is incompetent for the duties of the position to be filled, they may in such case refuse to such person an appointment as provided in Rule XXIII.

Rule XXVI.— Every applicant for appointment in the police department as patrolman shall be required to sign an agreement in writing to accompany his application, which agreement shall provide that if the applicant be appointed on the police force he will accept said appointment for a probationary period of three months as provided for in these regulations, and especially waives the right of trial upon written charges before being dismissed (allowed by chapter 436 of the Laws of 1880, as amended by chapter 359 of the Laws of 1883 and chapter 205, Laws of 1891), during said probationary period.

Rule XXVII.— No temporary appointment to a position within Schedules B and C, shall be made of any one not eligible for permanent appointment, excepting that in case of exigency, upon the written certificate of the commission that there are no candidates upon an eligible list for the position, and with the approval of the mayor, such temporary appointment may be made for a short period of time not exceeding three months, at the expiration of which period the office shall become vacant.

In the event of the appointment of special patrolmen pursuant to law, such special patrolmen may be appointed without examination and without reference to qualifications laid down in these rules.

Rule XXVIII.— Transfers of persons may be made from one office or department to another, by the consent of the heads of such offices or department, after such persons shall have passed a qualifying examination by the commission for the new position; but no person shall be transferred to a position in schedule B from a position in any other schedule, or from a lower to a higher grade of schedule B (unless he has passed the open competitive examination prescribed for admission to such position), except that persons may be promoted from one grade of schedule B to a higher grade of schedule B after having passed a qualifying examination as aforesaid.

When a person holding a position in schedule B has received an appointment to a position in any other schedule (in the same office or department), he may again be placed in a position in schedule B (in that office or department without examination) provided his service has been continuous.

Rule XXIX.— Every false statement knowingly made by any person in his application for examination, and every connivance by him at any false statement made in any certifcate which may accompany his application, or willful complicity in any fraud, designed to improve his standing upon examination, shall be good cause for refusing such person any examination or any rating upon an examination, or for striking his name from any eligible list, or for the removal of such person from any position to which he may have been appointed.

Rule XXX.— No person shall be appointed to the office of boiler inspector unless he shall have had at least five years' actual experience in the trade of boiler maker, other than as apprentice; and no person shall be appointed to the office of examiner of stationary engineers unless he shall have had at least five years' actual experience in the trade of stationary engineer other than as apprentice; and before the appointment of any person to either of said offices shall take effect, there shall be filed in the office of the city clerk, proof by the affidavit of at least three reputable citizens that the appointee has had the trade experience herein required.

Rule XXXI.— Any person dismissed or allowed to resign from the service for misconduct, subsequent to the promulgation of these rules, or who has been dismissed from the service upon charges of misconduct and due proof thereof, shall not be admitted to examination for appointment in any capacity in any department of the municipal service within two years from the date of such dismissal or resignation, and any person who prior to the promulgation of these rules resigned from the service while under charges of misconduct, shall not be admitted to examination for appointment in any capacity in any department of the municipal service within two years from the date of such resignation unless the local civil service board, or a majority thereof, shall certify that in their judgment, the said charges, if proven, would not have justified his dismissal from the service.

Rule XXXII.—No recommendation or question under the authority of these regulations, shall relate to the political opinions or affiliations of any person whatsoever; neither shall political opinions be discovered or considered by the Commission in their examinations, or considered by the appointing officer in determining his selection among candidates certified for appointment. The Commission shall not receive or consider any communication as to the qualifications or merits of any candidate for a position, except as are herein permitted, and except such communications as they may invite by way of verification of statements made by the candidate.

No person in the public service has the right to use his official authority or influence to coerce the political action of any person or body, and a violation of this regulation shall be deemed such official misconduct as shall render the person guilty of the same liable to removal from office.

Rule XXXIII.—It shall be the duty of the Commission at the beginning of every calendar year, to prepare the civil list of Buffalo for the year. That list shall contain the name of every person in the official employ of the city of Buffalo, or receiving compensation from the city on the first day of January, except in the educational department, together with the title of his office, the salary or compensation thereto attached, a brief specification of the duties of the office, whether the office be elective or appointive, by whom the appointment is made, and the term, if any, of the office. The civil list shall be filed in the office of the Commission as one of its records.

The persons entered upon the civil list (whether on first of January or during the year), shall be thereon classified as follows: first, officers elected by the people; second, persons holding positions in Schedule A; third, persons holding positions in Schedule B; fourth, persons holding positions in Schedule C; fifth, persons holding positions in Schedule D. The persons holding positions in one of the said four Schedules, A, B, C and D, shall, in the civil list, be placed in the Schedule to which he belongs.

Every appointment made on or after the first day of January in each year, shall be immediately entered upon the civil list, under the proper division, and every death, resignation, removal or promotion of any person whose name is on the civil list, shall be noted thereon.

It shall be the duty of every officer of the city to render the Commission every proper assistance in the preparation of the civil list.

Rule XXXIV.— Wherever these rules fail to regulate the conduct of the Commission relative to the examinations to be held thereunder, the commission has temporary power to act with the written approval of the mayor.

Rule XXXV.— The rules for admission to the civil service of the city of Buffalo and to any branch thereof heretofore prescribed or established, and the appointment of examiners thereunder made are hereby annulled and withdrawn, providing, however, that nothing herein contained shall effect any examination held, or any grading had thereunder, or any eligible list heretofore formed, or any appointment heretofore duly made in pursuance of such regulations hereby annulled; and every eligible list duly formed under such regulations shall in all respects be deemed to be formed under the foregoing rules, and to be an eligible list for the class specified in Appendix II, most nearly resembling the same.

Officers Elected by the People.

Mayor, comptroller, corporation counsel, treasurer, five assessors, one commissioner of public works, superintendent of education, nine councilmen, twenty-five aldermen, twenty-five constables, police justice.

SCHEDULE A.

Mayor's office.— Secretary, license clerk.

Comptroller's department.— Deputy comptroller, chief bookkeeper, two statement and warrant clerks, recording clerk, countersigning clerk, two tax sale clerks, clerk of arrears, bond and insurance clerk.

Auditor's department.—Auditor (appointed by comptroller).

Law department.— Corporation counsel, city attorney, assistant city attorney, managing clerk, detective.

Treasurer's department.— Assistant treasurer, cashier, paying teller, bookkeeper, assistant bookkeeper, all clerks, all tax collectors.

Board of public works department.— Two commissioners of public works, appointed by the mayor, superintendent of streets, deputy superintendent of streets, assistant superintendent of streets, superintendent of buildings, inspectors of buildings, chief engineer, deputy engineer, water department, secretary to the board, assistant secretary to the board, cashier.

City clerk's department.— City clerk, appointed by the common council, deputy city clerk.

Educational department.— Secretary, clerk, porter, two compulsory education examiners, all teachers, five school examiners (appointed by the mayor), secretary to the board of school examiners.

Overseer of the poor's department.— Deputy overseer.

Common council department.— Sergeant-at-arms, doorkeepers, messengers.

Department of health.— Health commissioner, appointed by the mayor, assistant health commissioner, city chemist.

Fire department.— Three commissioners, appointed by mayor, secretary, chief engineer, assistant chief engineer.

Police department.— Two commissioners of police, appointed by the mayor, superintendent, assistant superintendent, clerk to board of excise, assistant clerk to board of excise, sealer of weights and measures, assistant sealers of weights and measures, special excise inspector, superintendent electrical department.

Park department.— Fifteen commissioners, appointed by mayor, secretary and treasurer, superintendent, engineer and surveyor.

Market department.— Market clerk and all market porters (appointed by the mayor).

Harbor master's department.— Harbor master and all assistant harbor masters (appointed by the mayor).

Miscellaneous.— Boiler inspectors (appointed by the mayor), examiners of stationary engineers (appointed by the mayor).

Jubilee water department.— Three jubilee water commissioners (appointed by mayor).

Civil service commission.— Fifteen commissioners (appointed by the mayor), secretary to commission.

Schedule B.

City clerk's department.— All clerks, except deputy city clerk.

Department of health.— Clerk board of health, registrar of vital statistics, sanitary engineer, all special sanitary inspectors, all city physicians, inspector of plumbing and drainage, cattle inspector, keeper of the quarantine hospital, city scavenger, two inspectors of food supplies and drugs, all clerks.

Board of public works department.— Bureau of engineering, all assistant engineers, chief clerk, all rod and ax men, all draughtsmen, all clerks, all bridge tenders, all inspectors, except sewer inlets engineers, firemen.

Bureau of buildings.— Chief clerk, clerks, janitors, porters, engineers, firemen, watchmen, elevator men.

Water bureau.— All bookkeepers, all clerks, all draughtsmen, all engineers, except chief engineer, all inspectors, except pipe inspector, timekeeper, all storekeepers, all firemen, all tappers, all plumbers, all carpenters, all hostlers, all helpers, all teamsters, all blacksmiths (storekeeper), watchmen, all repairers.

General office.—All bookkeeepers, all stenographers, all clerks, inspectors of oils.

Assessor's department.— All clerks, except chief clerk, and deputy chief clerk, all draughtsmen.

Police department.— One surgeon, conductor prison van, all hostlers, all janitors, all doormen, all drivers patrol wagons, all patrolmen, police matrons, all engineers, line repairers.

Fire department.— Surgeon, all operators, all line repairers, all janitors, superintendent of horses, all firemen.

Park department.— Park police.

Law department.— All clerks, excepting managing clerk, stenographer.

Overseer of the poor department.— All clerks.

Comptroller's department.— All assistant bookkeepers, all clerks not specified in Schedule A.

Auditor's department.— All clerks.

Schedule C.

Police department.— Clerks to board of police, two officers for Superior Court of Buffalo, one officer for district attorney's office, one officer for mayor's office, two officers for police court, one officer for police commissioner's office, clerk to superintendent of police, clerk and operator at headquarters.

Assessor's department.— Chief clerk, assistant chief clerk.

Board of public works department.— General inspector, water pipe inspector, foreman of repairs in water bureau, storekeeper water department.

Fire department.— All district engineers, master mechanic.

Miscellaneous.— Keepers of bath houses, pound keeper, keeper Howard cemetery.

Schedule D.

All laborers, and foremen of laborers, janitors, dog catchers.

CHARLES F. BISHOP,
Mayor.

OFFICE OF NEW YORK
CIVIL SERVICE COMMISSION,
ALBANY, *April* 6, 1892.

The foregoing rules for admission to the civil service of the city of Buffalo, as submitted by Charles F. Bishop, mayor, are hereby approved by the New York Civil Service Commission.

A. C. EUSTACE,
President.

[L. S.]

Attest: CLARENCE B. ANGLE.
Secretary,

AMENDMENTS TO BUFFALO CIVIL SERVICE REGULATIONS.

MAYOR'S OFFICE, BUFFALO, *July* 11, 1892.

To the Civil Service Commissioners of the State of New York:

Gentlemen.— I enclose to you an amendment to the civil service rules of Buffalo which I trust may meet your approval. The amendment is requested by the fire commissioners of our city, and endorsed by the civil service commission of our city, as you will see by enclosed letter. The commission are waiting action on this recommendation before holding a new examination so I trust this may receive your attention at your first session.

Respectfully,

CHARLES F. BISHOP,
Mayor.

CIVIL SERVICE COMMISSION OF THE CITY OF BUFFALO,
OFFICE OF THE SECRETARY, BUFFALO, *June* 3, 1892.

To his Honor, Charles F. Bishop, Mayor:

This is to certify that at the request of the board of fire commissioners, the civil service commission of the city of Buffalo has adopted a resolution providing that all applicants for positions as firemen in the Buffalo fire department shall be between the ages of 21 and 36 years.

Respectfully,

HARVEY W. PUTNAM,
Secretary.

MAYOR'S OFFICE, BUFFALO, *July* 11, 1892.

To the Civil Service Commissioners of the State of New York:

I respectfully recommend that subdivision second of rule 12, of the rules for admission to the civil service of the city of Buffalo, approved by you April 6, 1892, be amended by making it read as follows:

"Second. Not less than twenty-one nor more than thirty-six years of age;" and I respectfully ask your approval.

CHARLES F. BISHOP,
Mayor.

Approved by the New York Civil Service Commission, July 22, 1892.

Attest: CLARENCE B. ANGLE,
Secretary.

AMENDMENT TO ROCHESTER REGULATIONS.

MAYOR'S OFFICE, ROCHESTER, N. Y., *April* 5, 1892.

Pursuant to the statutes of this State to regulate and improve the civil service thereof, I, Richard Curran, mayor of the city of Rochester, hereby amend regulation one (1), prescribed August 20, 1884, by Cornelius R. Parsons, then mayor of the city of Rochester, pursuant to said statutes, to take effect from the date of its approval by the New York Civil Service Commission, so as to read as follows:

Regulation 1. These regulations shall apply to all positions of the public service of the city of Rochester, with the following exceptions: All elective officers, the subordinates of the city treasurer, the city attorney, and his two assistants, and all persons employed by or who seek to enter the public service under the board of education.

RICHARD CURRAN,
Mayor.

Approved by the New York Civil Service Commission, April 29, 1892.

Attest: CLARENCE B. ANGLE,
Secretary.

EXPLANATORY LETTER.

ROCHESTER, N. Y., *April* 25, 1892.

Clarence B. Angle, Esq., Secretary New York Civil Service Commission, Albany, N. Y.:

Dear Sir.— Your favor of the twenty-second instant, addressed to Mayor Curran, has been handed to me, with instructions to answer the same.

Section 60 of the charter of the city of Rochester prescribes the only duties of the two assistant city attorneys. It reads as follows: "The attorney of said city, or in case of his absence or inability to act from any cause, the first or second assistant city attorney shall prosecute and defend any and all actions, suits and proceedings brought or instituted by or against the city, and render to the common council and the other officers and boards of said city such other professional services connected with the affairs of said city as may at any time be required of him, or by the common council."

The salary of the first assistant city attorney, at present, is $3,500, and of the second assistant, $1,800. Trusting this may be satisfactory, I remain,

Yours truly.

S. D. KIEHEL,
First Assistant City Attorney.

Amendments to Gloversville Regulations.

Mayor's Office, Gloversville, N. Y., *May* 3, 1892.

I, Clark L. Jordan, mayor of the city of Gloversville, do hereby prescribe the following amendments to the civil service regulations for the city of Gloversville, the same to take effect upon their approval by the New York Civil Service Commission.

Schedule A. Schedule A is hereby amended by striking therefrom "superintendent of the water works."

Schedule C. Schedule C is hereby amended by striking therefrom "sewer commissioners and special inspectors of contract work."

CLARK L. JORDAN,
Mayor.

Approved by the New York Civil Service Commission, June 7, 1892.

Attest: CLARENCE B. ANGLE,
Secretary.

Amendments to Lockport Regulations.

Mayor's Office, Lockport, N. Y., *October* 10, 1892.

Clarence B. Angle, Secretary, etc., Albany, N. Y.:

My Dear Sir.—In reference to changes in the rules and regulations for this city we desire briefly to offer the following explanations for consideration with the hope that your board will permit alterations to be made in our civil service rules accordingly.

Change 1. Chief engineer of the fire department.—Our fire department of six companies is a volunteer organization and elects its engineer corps by ballot subject to the approval of the common council. The firemen of this city are intelligent men, and are not easily led to make a wrong choice in selecting its favorites for chief and assistants. A convention is held each company sending three delegates; candidates are nominated and an election had. The names of those elected are recommended to the mayor for appointment and which appointments the council always confirms. We find that the fire department works best when led by those of its own selection. The politics of these officers is not a bar to thwart the wishes of the firemen. The first and second assistant engineers receive no salaries, and we believe should not be subject to civil service examination any more than should the foremen and minor officers of the several companies. The salary of the chief engineer is $150 per year. We suggest that the two assistant engineers be dropped from Schedule C, and that the chief engineer be taken from Schedule C and placed as indicated in the accompanying copy of rules, etc., which please find enclosed herewith.

Change 2. City physician.— The city physician of Lockport is its health officer, and works under the direction of the board of health, and its president, who is also mayor. We expect that any physician in good standing, who has a college diploma to license him to practice, would qualify before any civil service board for the office of city physician. Then we understand that health officers throughout the State are examined by separate boards of examiners, the board for this district having upon it our excellent and honorable county judge, and as our health officer is always a reputable physician, he could be cited to qualify before the county judge if thought necessary without a separate examination by our local board. We therefore respectfully recommend that city physician be dropped from Schedule C and placed as indicated in the rules herewith. Salary $400 per year.

Change 3. Health inspector.— We recommend that health inspector be dropped from Schedule C and placed as indicated for the reason that the office is filled by the board of health, not by appointment, but by election by ballot, and we understand that the local board of health is amenable to the State Board of Health for its actions. Salary of this officer is one dollar and seventy-five cents per day, fixed by resolution of the local board of health.

Change 4. Excise clerk.— We ask that excise clerk be dropped from Schedule C and placed as indicated because this officer's relations with the board of excise commissioners are in the main strictly confidential and selection is made by the excise board by election. Salary three dollars per day for the time employed — from one to two months each year.

Change 5. Commissioners of deeds.— Inasmuch as commissioners of deeds perform the same service as notaries public who are not subjected to civil service examination, it is argued that they should also be excused from attendance before the civil service board. We accordingly ask that commissioners of deeds be dropped from Schedule C. Salary, same fees as notaries public.

In a city of 16,000 inhabitants, the operation of the civil service rules, when strictly enforced, as we have endeavored to do, is not as pleasant for the board of examiners as may be in larger cities like New York, Brooklyn and Buffalo, and besides in the smaller cities every act of those holding appointive positions is so closely scrutinized, noted and criticised by almost every inhabitant that unfit officials are soon detected and can be summarily weeded out. We therefore hope and trust that all latitude possible may be given us, and that your honorable board will be liberal in framing rules and regulations for this city. The changes now asked for we expect will benefit rather than injure the public service here, and if granted, will relieve our excellent local board of examiners of much, we think, unnecessary trouble and annoyance.

Asking your good offices to aid us in this matter, I remain,

Very respectfully yours,

JOHN T. DARRISON,
Mayor.

At a meeting of the New York Civil Service Commission held October 26, 1892, action upon proposed amendments to the Civil Service regulations for the city of Lockport was taken as follows:

Proposed amendment 1. Transferring "chief engineer and first and second assistant engineers, fire department," from Schedule C to Schedule A, approved.

Proposed amendment 2. Transferring "city physician" from Schedule C to Schedule A, disapproved.

Proposed amendment 3. Transferring "health inspector" from Schedule C to Schedule A, disapproved.

Proposed amendment 4. Transferring "excise clerk" from Schedule C to Schedule A, disapproved.

Proposed amendment 5. Transferring "commissioners of deeds" from Schedule C to Schedule A, approved.

Attest: CLARENCE B. ANGLE,
Secretary.

APPENDIX D.

Roster of State Officers and Employes.

ROSTER OF STATE EMPLOYES WITH CORRECTIONS AS REPORTED TO JANUARY 1, 1893.

ADJUTANT-GENERAL.

NAME.	Title of position.	Salary.	Schedule	Date of entrance into service.
Josiah Porter	Adjutant-General	$3,000 00	Exempt	January 1 1886
Frederick Phisterer	Assistant Adjutant-General	2,500 00	A	November 22, 1892
Edward B. Ten Broeck	Chief clerk	1,800 00	E	March 1, 1875
Frank A. McNeely	Confidential clerk	1,200 00	A	July 27, 1891
Horatio P. Stacpole	Clerk	1,500 00	E	January 1, 1880
Gilbert C. Rice	"	1,500 00	E	August 1. 1883
Thomas A. Stuart	"	1,500 00	E	August 1. 1883
Rome Adams	"	720 00	B	January 27, 1892
Patrick H. Dailey	Messenger	1,000 00	B	August 1, 1883
Charles P. Case	Superintendent Military Bureau	960 00	B	April 1, 1888
John A. Carey	Janitor Military Bureau	720 00	D	February 15, 1890

AGRICULTURAL EXPERIMENT STATION, GENEVA.

NAME.	Title of position.	Salary.	Schedule	Date of entrance into service.
Peter Collier	Director	2,500 00	C	December 1, 1887
William P. Wheeler	Assistant director	1,200 00	C	December 1, 1887
F. E. Newton	Stenographer	840 00	B	January 1, 1884
R. D. Newton	Clerk	480 00	B	January 1, 1889
Lucius L Van Slyke	Chemist	1,400 00	B	July 14, 1890
C. T. Jenter	Assistant chemist	600 00	B	September 9. 1891
A. L. Kinsely	" "	480 00	B	September 19, 1891
W. H. Andrews	" "	480 00	B	September 21. 1891
S. Ando	" "	480 00	B	October 12, 1891
B. L. Murray	" "	480 00	B	November 15, 1891
C. E. Hume	Gardener	540 00	D	June 1, 1889
G. W. Churchill	Farmer	540 00	D	April 1, 1884

ASYLUM FOR INSANE CRIMINALS.

NAME.	Title of position.	Salary.	Schedule	Date of entrance into service.
H. E. Allison, M. D	Superintendent	2,500 00	B	July 1, 1889
J. Elvin Courtney, M D	First assistant physician	1,600 00	B	December 10, 1891
Luther C. Jones M. D	Second assistant physician	800 00	B	December 1, 1889
James F. Howell	Steward	1,000 00	C	April 1, 1889
Mary K. M Lynch	Stenographer	360 00	B	September 19, 1892

William Kelly	Attendant	396 00	D	May 1, 1886
James Carmody	"	300 00	D	January 11, 1887
Mary A Osborn	"	300 00	D	August 10, 1887
W. H Sambells	"	540 00	D	November 21, 1887
James Coyle	"	360 00	D	January 14, 1888
Bernard Lynch	"	300 00	D	February 3, 1888
Amanda Hess	"	216 00	D	August 30. 1888
Thomas H Hicks	"	276 00	D	August 13, 1889
Michael Vaughn	"	288 00	D	March 1, 1890
Patrick Russell	"	276 00	D	July 30, 1890
John M Walsh	"	360 00	D	May 22, 1890
Patrick Flanagan	"	276 00	D	June 23, 1890
Daniel J. Lucy	"	324 00	D	November 16, 1890
James Sargent	"	276 00	D	March 16, 1891
Patrick Ward	"	288 00	D	June 28, 1891
Edward Coligan	"	216 00	D	June 30, 1891
Thomas J. Kenna	"	2 6 00	D	September 24 1891
William F. Iago	"	288 00	D	September 24, 1891
George Graham	"	216 00	D	September 24, 1891
Thomas McDonald	"	300 00	D	August 1, 1891
William Nolan	"	276 00	D	February 18, 1892
Ernest Dix	"	216 00	D	February 18, 1892
Josephine McGrath	"	216 00	D	March 14, 1892
Charles Russell	"	264 00	D	March 14. 1892
Daniel M. Farrington	"	240 00	D	July 18, 1892
Daniel Curtin	"	264 00	D	July 18, 18 2
John E. Barry	"	264 00	D	July 18, 1892
Patrick Hassett	"	264 00	D	July 18, 1882
James F. Maher	"	264 00	D	July 18, 1882
Robert J Walsh	"	264 00	D	July 18, 1892
Edward J. De Heimer	"	240 00	D	July 18, 1892
Terence Harnett	"	216 00	D	July 18, 1892
Irving F. Clark	"	240 00	D	July 18, 1892
Edward J Tero	"	240 00	D	July 18, 1892
Jacob Ireland	"	216 00	D	July 18, 1892
Patrick Finnegan	"	240 00	D	July 18, 1892
Thomas Kinne	"	240 00	D	July 18, 1882
Percy Vail	"	216 00	D	July 18, 1892
Patrick M Walsh	"	216 00	D	July 18, 1892
John Leo	"	240 00	D	September 8, 1892
Thomas Kelly	"	216 00	D	August 3, 1892
Frederick J. Tobin	"	216 00	D	August 14, 1892
John J. Smith	"	240 00	D	August 17, 1892
John J. Sargeant	"	240 00	D	August 18 1892
William H. Carlin	"	240 00	D	September 7, 1892
James H. Byrnes	"	210 06	D	September 22, 1882
John T. Tobin	"	240 00	D	September 24, 1892
James C. Farrell	"	240 00	D	September 25, 1892
John J. Quinn	"	240 00	D	September 27, 1892
Michael Geraghty	"	216 00	D	October 17, 1892

ROSTER OF STATE EMPLOYES, ETC.— ASYLUM FOR INSANE CRIMINALS — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Thomas Kerrigan	Attendant	$216 00	D	October 28, 1892
David Morris	Carpenter	750 00	D	November 17, 1884
Owen Gavigan	Laundryman	380 00	D	December 1, 1880
Belle White	Organist	60 00	D	October 1, 1885
John J. Walsh	Night watch	360 00	D	December 31, 1886
Patrick Conway	Baker	384 00	D	December 2, 1886
Richard Treveal	Gardener	480 00	D	October 3, 1889
Herbert H. Cooper	Store keeper	348 00	D	February 1, 1890
Robert Watts	Tailor	300 00	D	July 18, 1892
John W. Hall	Engineer	780 00	D	September 8, 1872
George Sexsmith	Fireman	360 00	D	May 23, 1887
James McGaughrin	"	384 00	D	July 18, 1892

ASYLUM FOR FEEBLE-MINDED CHILDREN.

James C. Carson, M. D	Superintendent	3,000 00	C	October 18, 1884
Alfred Wilkinson	Treasurer	750 00	A	January 1, 1885
John L. Barnett	Steward	1,000 00	C	August 1, 1892
Alvira E. Wood	Matron	800 00	C	——— —, 1852
W. J. Hallworth	Clerk	480 00	B	April 27, 1880
Kate A. Hathaway, M. D	Assistant physician	400 00	C	July 20, 1888
Bessie C. Carson	Secretary	192 00	B	August 1, 1889
Nettie Stevenson	Teacher	300 00	B	November 8, 1886
Sarah Young	"	400 00	B	——— —, 1852
M. Elizabeth Cook	"	400 00	B	——— —, 1863
Olive Sawtell	"	400 00	B	October 1, 1877
Mary Cozzens	"	300 00	B	October 1, 1879
Nellie Kipp	"	300 00	B	October 1, 1885
Lottie Howe	"	300 00	B	May 1, 1886
Carrie Potter	"	240 00	B	September 25, 1889
Lottie Parmelee	"	200 00	B	December 20, 1889
Jean Spaulding	"	250 00	B	August 10, 1891
Lovisa Bowen	Attendant	244 00	D	July 11, 1887
Mary Farnell	"	120 00	D	June 1, 1887
Mary McDonald	"	120 00	D	October 3, 1879
Nellie Ryan	"	120 00	D	May 31, 1887
Walter Rand	"	312 00	D	February 17, 1881
Kate Cunnieff	"	120 00	D	February 28, 1888
Bridget Miller	"	108 00	D	October 20, 1887

Hannah Dwyer	"	108 00	D	June	27, 1888
Maggie Norris	"	132 00	D	December	3, 1889
Bridget Hayden	"	132 00	D	March	31, 1890
Nellie Jenks	"	132 00	D	May	28, 1891
Martha Johnston	"	156 00	D	May	28, 1891
Nellie Wood	"	120 00	D	May	28, 1891
Addie Johnston	"	132 00	D	May	30, 1892
Bridget Healey	"	120 00	D	October	1, 1892
Maggie Dooling	"	180 00	D	September	1, 1889
Thomas Grant	"	276 00	D	July	24, 1884
Annie Erwin	"	120 00	D	July	1, 1891
Frederick Cooper	"	216 00	D	July	15, 1891
Ellen Woodruff	"	132 00	D	August	13, 1891
Louisa Friers	"	144 00	D	September	19, 1891
Delia Stanitz	"	144 00	D	September	28, 1891
Mary Smith	"	132 00	D	December	1, 1891
Katherine Kinsley	"	212 00	D	December	31, 1891
Jesse Jenks	"	132 00	D	January	1, 1892
Annie Palmer	"	120 00	D	February	29, 1892
Crawford McMillan	"	240 00	D	March	1, 1892
John Callahan	"	240 00	D	April	7, 1892
Ann See	"	120 00	D	May	12, 1892
Martin Larkin	"	240 00	D	June	27, 1892
Hattie Wagner	"	120 00	D	August	25, 1892
Alice Brown	"	120 00	D	August	30, 1892
Alice Ham	"	120 00	D	August	31, 1892
Nellie Stetson	"	120 00	D	September	3, 1892
Lillian Davis	"	120 00	D	September	6, 1892
Mrs. G. R. Sheldon	Supervisor	500 00	D	October	1, 1878
Annie Frezon	"	216 00	D	November	1, 1885
Carrie Seeley	"	240 00	D	April	27, 1888
James A. Sheldon	"	540 00	D	February	18, 1890
Myra Andrews	"	180 00	D	March	5, 1891
Alice M. Palmer	Housekeeper	300 00	D	November	7, 1892
Mary Bonner	Nurse	132 00	D	November	27, 1877
Jennie Chapman	"	192 00	D	August	11, 1891
May Bristol	"	192 00	D	November	18, 1891
Alice M. Judge	"	180 00	D	December	8, 1892
John Carrier	Night watch	480 00	D	May	1, 1884
Belle Erwin	"	216 00	D	December	1, 1891
George Ham	Gardener	480 00	D	October	1, 1886
Joseph Hullar	Baker	600 00	D	July	1, 1887
Louise Richards	Matron's assistant	400 00	D	November	1, 1888
Julia Smith	" "	400 00	B	September	25, 1890
Joanna Hays	Usher	180 00	D	June	1, 1887
Charles Snyder	Shoemaker	505 00	D	September	1, 1890
A. W. Lasky	Engineer	600 00	D	April	8, 1892
Reuben Hall	Fireman	180 00	D	August	1, 1883

ROSTER OF STATE EMPLOYES, ETC.— (*Continued*) — ATTORNEY-GENERAL.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Simon W. Rosendale	Attorney-General	$5,000 00	Exempt	January 1, 1892
John W. Hogan	First deputy	4,000 00	A	February 12, 1892
John D. McMahon	Second deputy	4,000 00	A	February 12, 1892
Francis R. Gilbert	Third deputy	3,000 00	A	March 16, 1892
William J. Lardner	Assistant to Attorney-General	1,800 00	A	February 1, 1888
Joseph S. Kellogg	Brief clerk	2,200 00	C	January 1, 1892
Michael H. Quirk	Finance department	1,600 00	B	January 1, 1888
William M. Thomas	Stenographer	1,700 00	B	January 1, 1888
John F. Handley	Confidential clerk	1,000 00	A	August 15, 1889
Charles M. Friend	Assistant to second deputy	800 00	C	January 11, 1892
Walter L. Childs	Messenger	720 00	C	August 1, 1889

AUBURN PRISON.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Charles F. Durston	Agent and warden	3,500 00	C	July 1, 1887
J. W. McKnight	Clerk	2,000 00	C	April 19, 1892
T. H. Murphy	Assistant clerk	1,500 00	C	March 10, 1891
James Shaw	Principal keeper	2,000 00	D	April 17, 1892
Horatio Yales, D. D	Chaplain	2,000 00	A	December 13, 1888
Conant Sawyer, M. D	Physician	2,000 00	B	August 10, 1888
George Welts	Yardkeeper	1,200 00	D	December 9, 1889
D. B. McNeil	Storekeeper	1,200 00	D	May 30, 1877
M. L. Willard	Hallkeeper	1,200 00	D	July 25, 1892
James Angel	Keeper	900 00	D	March 1, 1883
G. W. Allen	"	900 00	D	June 2, 1883
William Baker	"	900 00	D	September 1, 1888
George Brown	"	900 00	D	July 1, 1888
A. J. Biglin	"	900 00	D	April 15, 1889
A. Boys	"	900 00	D	August 9, 1880
F. E. Desroches	"	900 00	D	February 8, 1887
L. Donlan	"	900 00	D	February 15, 1876
H. R. Flannagan	"	900 00	D	January 15, 1891
Thomas Gorman	"	900 00	D	March 12, 1883
George Jenks	"	900 00	D	January 16, 1873
E. Lathrop	"	900 00	D	August 7, 1890
S. Meddaugh	"	900 00	D	August 20, 1886
W. O'Connor	"	900 00	D	February 16, 1876
W. C. Patterson	"	900 00	D	September 1, 1888
J. H. Parsons	"	900 00	D	April 30, 1879
N. J. Rhodes	"	900 00	D	February 28, 1883
E. Y. Robinson	"	900 00	D	August 1, 1888

J. Stickles	"	900 00	D	February 16, 1888
D H. Trowbridge	"	900 00	D	August 1, 1888
A. Tupper	"	900 00	D	March 31, 1883
P. Van Vranken	"	900 00	D	September 13, 1889
H. G. Wyckoff	"	900 00	D	January 1, 1876
M. B. Whiting	"	900 00	D	September 1, 1889
F. H. Wells	Sergeant of the guard	900 00	D	April 1, 1889
George Alvord	Guard	780 00	D	January 4, 1892
E. W. Allen	"	780 00	D	October 1, 1887
John Bray	"	780 00	D	April 3, 1882
F. M. Burke	"	780 00	D	September 22, 1890
H. C. Bump	"	780 00	D	September 20, 1890
John Crowley	"	780 00	D	March 1, 1892
J. T. Downs	"	780 00	D	August 17, 1892
S. Delano	"	780 00	D	January 17, 1890
Patrick Flynn	"	780 00	D	October 18, 1892
James Griffin	"	780 00	D	February 1, 1888
Patrick Gircity	"	780 00	D	April 1, 1891
Isaac Gutchess	"	780 00	D	February 20, 1891
Daniel Grant	"	780 00	D	June 1, 1892
Frederick Gray	"	780 00	D	July 7, 1892
John Goodsell	"	780 00	D	May 6, 1892
A. J. Hallock	"	780 00	D	June 15, 1891
John Halpin	"	780 00	D	August 16, 1892
J. J. Holmes	"	780 00	D	August 18, 1888
James Jolly	"	780 00	D	May 1, 1892
Thomas Limner	"	780 00	D	July 1, 1891
John McGreegan	"	780 00	D	September 7, 1892
John Mullaly	"	780 00	D	September 13, 1891
W. E. Murray	"	780 00	D	May 1, 1891
John Martin	"	780 00	D	July 1, 1891
Patrick Mitchell	"	780 00	D	May 1, 1889
W. F. McCabe	"	780 00	D	April 2, 1890
Owen Murphy	"	780 00	D	May 5, 1889
Peter Munhall	"	780 00	D	August 24, 1892
James Madden	"	780 00	D	July 7, 1892
Frank Martin	"	780 00	D	March 3, 1890
John McGarr	"	780 00	D	April 1, 1889
Robert Parker	"	780 00	D	July 1, 1892
W. F Purdy	"	780 00	D	May 16, 1889
Frank Roach	"	780 00	D	August 1, 1892
George Reichert	"	780 00	D	May 21, 1891
John Spellessy	"	780 00	D	August 2, 1892
J. T. Sullivan	"	780 00	D	March 1, 1892
Horace Saxton	"	780 00	D	November 2, 1891
A. L. Smith	"	780 00	D	August 1, 1891
William Tunis	"	780 00	D	April 1, 1890
H M. Tiffany	"	780 00	D	January 24, 1892
John Winters	"	780 00	D	August 16, 1883
W. H. Wemple	"	780 00	D	February 15, 1890

ROSTER OF STATE EMPLOYES, ETC.— (*Continued*) — BANKING DEPARTMENT.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Charles M. Preston	Superintendent	$5,000 00	A	December 26, 1889
Vacant	Deputy	4,000 00	A	
A. C. Judson	Chief clerk and examiner	2,500 00	A	May 22, 1890
Samuel T. Hull	Bookkeeper and examiner	1,700 00	A	April 1, 1890
John J. Hart	Clerk and examiner	1,200 00	A	April 3, 1890
Oscar A. Jacobs	" "	1,200 00	A	February 11, 1890
John D. Moriarty	" "	1,700 00	A	April 15, 1883
William F. Creed	" "	1,800 00	A	June 9, 1892
T. M. Romeyn	Chief bank examiner	1,200 00	A	July 6, 1892
Charles R. Hall	Examiner	4,000 00	A	May 15, 1890
Fred. H. Parker	"	10 00 per day	A	May 1, 1890
Mark S. Eustace	"	10 00 "	A	January 16, 1890
W. H. Whitten	"	8 00 "	A	April 1, 1892
Richard T. Lomasney	"	8 00 "	A	April 1, 1892
George A. Elston	"	8 00 "	A	June 2, 1892
A. W. Johnson	"	8 00 "	A	September 15, 1892
P. H. Mooney	"	5 00 "	A	March 1, 1892
W. J. Morrisey	"	5 00 "	A	April 12, 1892
Miss H. C. Norton	Private secretary	900 00 per annum	A	October 13, 1890
James Gaffney	Night watch	240 00 "	D	October 1, 1886
E. J. Connell	Examiner	8 00 per day	A	October 3, 1892
John P Hinckley	Clerk and examiner	1,800 00	A	October 1, 1892
F. D. Sherman	" "	8 00 per day	A	October 28, 1892
W. J. Morrissey	" "	1,200 00	A	December 12, 1892

BOARD OF CHARITIES.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Oscar Craig	President	None	Exempt	March 17, 1892
John H. Van Antwerp	Vice-president	"	"	February 17, 1887
William R. Stewart	Commissioner	"	"	March 17, 1892
Samuel Alexander	"	"	"	March 26, 1890
Mrs. Beekman De Peyster	"	"	"	April 2, 1891
Carll H. De Silver	"	"	"	March 17, 1892
Edward W. Foster	"	"	"	February 25, 1887
Robert McCarthy	"	"	"	March 17, 1892
Peter Walrath	"	"	"	March 17, 1892
William P. Letchworth	"	"	"	February 25, 1887
Vacant	"	"	"	
Charles S. Hoyt	Secretary	$3,000 00	A	June 5, 1868
James O. Fanning	Assistant secretary	2,500 00	E	July 1, 1874
Julia S. Hoag	Clerk	2 50 per day	B	July 1, 1875

BOARD OF CLAIMS.

Henry M Beebe	Commissioner	5,000 00	Exempt	April	27, 1883
Hugh Reilly	"	5,000 00	Exempt	June	4, 1891
Wilbur F. Porter	"	5,000 00	Exempt	January	5, 1892
Andrew Hamilton	Clerk	4,000 00	A	April	1, 1892
James E. Kirk	Deputy clerk	1,500 00	A	March	20, 1888
Thomas Watts	Stenographer	2,500 00	C	May	15, 1888
John J. Bauagan	Marshal	1,200 00	C	June	15, 1889

BOARD OF ELECTRICAL CONTROL.*

Thomas F. Gilroy	Commissioner ex-officio	None	Exempt	January	1, 1893
Jacob Hess	Commissioner		Exempt		
Theodore Moss	"		Exempt		
Henry S. Kearney	Engineer	$4,800 00	A	July	5, 1887
Schuyler S. Wheeler	Electrical expert	2,500 00	B	June	15, 1888
John B. Trainer	Assistant secretary	1,800 00	A	August	15, 1889
John W. Totten	Permit clerk	1,200 00	B	August	15, 1889
Henry Winands	Stenographer	1,200 00	B	July	15, 1887
F. J. Fitzpatrick	Inspector	4 00 per day	B	July	13, 1888
William Mitchell	"	4 00 "	B	June	13, 1888
Henry Barton	"	4 00 "	B	June	13, 1888
Leonard Wager	"	4 00 "	B	June	13, 1888

BOARD OF EXCISE--NEW YORK CITY.

William S. Andrews	Commissioner	5,000 00	A	May	1, 1892
Leicester Holme	"	5,000 00	A	May	1, 1892
Joseph Koch	"	5,000 00	A	May	1, 1892
James F. Bishop	Secretary	3,000 00	A	May	14, 1889
James N. Morris	Assistant secretary	2,000 00	B	July	8, 1889
Edward Browne	Counsel	5,000 00	A	May	7, 1889
David Rothschild	Engrossing clerk	1,800 00	B	August	25, 1888
Peter Brady	Law clerk	2,500 00	C	July	11, 1889
Nathan Klein	Application clerk	1,200 00	C	August	5, 1889
Jacob Wortheimer	"	1,200 00	C	October	21, 1889
Eugene McCormack	"	1,200 00	C	December	9, 1890
Daniel Whalen	Cashier	3,000 00	A	October	13, 1891
John Donnelly	Assistant cashier	1,800 00	A	October	13, 1891
Thomas Duncan	Chief inspector	2,500 00	C	June	1, 1889
Thomas Leeman	Deputy chief inspector	1,800 00	C	February	1, 1888
C E. Gildersleeve	General inspector	1,800 00	C	March	1, 1887
Theo. Greig	"	1,800 00	C	February	1, 1888
John Walker	Special inspector	1,500 00	C	July	2, 1883
Michael Haggerty	"	1,500 00	C	February	1, 1888
Charles Anthes	"	1,500 00	C	August	16, 1889
Miller Mather	"	1,500 00	C	July	17, 1889

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* Have not reported since October 1, 1890.

ROSTER OF STATE EMPLOYES, ETC. — BOARD OF EXCISE — NEW YORK CITY. — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Lawrence Collins	Special inspector	$1,500 00	C	May 22, 1891
Frank Tweed	"	1,500 00	C	December 15, 1891
John J. Sullivan	"	1,200 00	C	April 29, 1892
Edward Mallahan	"	1,200 00	C	September 1, 1892
David Hoyle	"	1,800 00	C	September 1, 1892
Lansing Pruyn	"	1,800 00	C	September 1, 1892
George H. Gale	Protest and complaint inspector	2,000 00	C	May 1, 1890
Thomas Ferris	Detective	1,500 00	Exempt	September 1, 1889
George Brown	"	1,500 00	Exempt	September 1, 1889
Joseph Sharp	"	1,500 00	Exempt	September 1, 1889
Edwin Haggerty	Special aid	1,500 00	Exempt	September 1, 1889
William Barry	Inspector	1,200 00	C	October 8, 1886
William Connolly	"	1,200 00	C	December 1, 1886
Louis Diebner	"	1,200 00	C	October 15, 1886
A. R. Herrick	"	1,200 00	C	November 23, 1886
Samuel Koch	"	1,200 00	C	March 1, 1887
Patrick Logan	"	1,200 00	C	October 1, 1886
Francis Redmond	"	1,200 00	C	March 1, 1887
John Hart	"	1,200 00	C	October 26, 1887
Frank Gulick	"	1,200 00	C	February 1, 1888
Edward Hart	"	1,200 00	C	February 20, 1888
James Seery	"	1,200 00	C	April 24, 1888
James Welch	"	1,200 00	C	January 21, 1889
Thomas Boylan	"	1,200 00	C	February 14, 1889
Thomas Pearson	"	1,200 00	C	May 8, 1889
Henry Steffin	"	1,200 00	C	May 9, 1889
Daniel Casey	"	1,200 00	C	May 13, 1889
Thomas Carroll	"	1,200 00	C	May 13, 1889
Thomas Fitzpatrick	"	1,200 00	C	June 1, 1889
James Hagan	"	1,200 00	C	June 6, 1889
Martin Horan	"	1,200 00	C	June 10, 1889
Patrick Cunningham	"	1,200 00	C	June 14, 1889
Myer Elsas	"	1,200 00	C	June 21, 1889
James O'Sullivan	"	1,200 00	C	June 25, 1889
James Delaney	"	1,200 00	C	July 1, 1889
Julius Simon	"	1,200 00	C	July 3, 1889
Leopold Gard	"	1,200 00	C	July 5, 6889
Edward Skiffington	"	1,200 00	C	July 5, 1889
John Carey	"	1,200 00	C	July 15, 1889
Robert Dore	"	1,200 00	C	July 16, 1889
Daniel Bradley	"	1,200 00	C	August 6, 1889
John Healy	"	1,200 00	C	October 4, 1889

Francis DeCanio	"	1,200 00	C	October 12, 1889
Mathew Murphy	"	1,200 00	C	October 14, 1889
Patrick Moynahan	"	1,200 00	C	November 21, 1889
Philip Emrich	"	1,200 00	C	January 3, 1890
Edward Coppers	"	1,200 00	C	January 3, 1891
John Farley	"	1,200 00	C	November 13, 1891
Isaac Rice	"	1,200 00	C	December 22, 1891
Wesley Yard	"	1,200 00	C	April 28, 1892
Robert Baldwin	"	1,500 00	C	September 1, 1892
Joseph Flanly	"	1,500 00	C	September 1, 1892
Louis Mand	"	1,500 00	C	September 1, 1892
Patrick Trainor	"	1,500 00	C	September 1, 1891
Henry Wolf	"	1,200 00	C	December 13, 1892
James Hayes	Doorkeeper	975 00	C	October 3, 1889
Emma Dymond	Janitress	800 00	D	April 1, 1887

BOARD OF HEALTH.

Thomas Newbold	Commissioner	None	Exempt	April 8, 1891
Thomas S. Dawes, M. D	"	"	"	April 8, 1891
William E. Milbank, M. D	"	"	"	April 8, 1891
Maurice Perkins, M. D	"	"	"	March 21, 1888
Joseph D. Bryant, M D	"	"	"	July 7, 1887
John W. Whitbeck, M. D	"	"	"	May 18, 1892
Simon W. Rosendale	" ex-officio	"	"	January 1, 1892
William T. Jenkins, M. D	" "	"	"	February 1, 1892
Lewis Balch, M. D	Secretary and commissioner ex-officio	$3,500 00	A	March 3, 1886
Marion Randolph	Assistant secretary	2,500 00	A	August 15, 1892
F. G Curtis, M. D	Medical expert	1,800 00	C	July 11, 1883
Charles N. Smith	Registrar	1,500 00	B	July 15, 1891
Julius H. Haas	"	1,500 00	B	July 15, 1891
Mrs. M. L Edwards	"	1,500 00	B	March 1, 1892
Thomas S. Jones	"	1,500 00	B	December 1, 1886
Anna L. Mattimore	Typewriter	750 00	B	December 1, 1886
Fergus Halpin	Messenger	750 00	B	August 11, 1891

BOARD OF MEDIATION AND ARBITRATION.

William Purcell	Commissioner	3,000 00	Exempt	June 1, 1887
Gilbert Robertson	"	3,000 00	"	June 1, 1887
Florence F. Donovan	"	3,000 00	"	June 1, 1887
Charles J. Madden	Secretary	2,000 00	A	June 3, 1887

BOARD OF POLICE JUSTICES, NEW YORK CITY.

(*See courts.*)

ROSTER OF STATE EMPLOYES — (*Continued*) — BUREAU OF STATISTICS OF LABOR.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Charles F. Peck	Commissioner	$3,000 00	Exempt	April 1, 1883
Edward J. Kean	Chief clerk	2,000 00	A	March 4, 1885
Kate Shaffer	Clerk	1,200 00	B	September 1, 886
William J. Stoops	“	1,200 00	B	——— — 1883
Daniel J Hickey	Stenographer	4 00 per day	B	October 8, 1890
George A. Stevens	Special agent	4 00	A	June 4, 1888
John B. Kean	“ “	4 00 “	A	August 10, 1892
Lucien Saniel	“ “	5 00 “	A	September 3, 1892
Seymour Pinch	“ “	4 00 “	A	September 15, 1892
Michael J. Regan	“ “	1,200 00	A	April 1, 1889
George Benzinger	“ “	1,200 00	A	May 1, 1889
Charles G. Bloete	“ “	1,200 00	A	June 28, 1889
Elbert Rogers	“ “	1,200 00	A	November 17, 1890

CIVIL SERVICE COMMISSION.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Alexander C. Eustace	Commissioners	2,000 00	Exempt	January 8, 1890
E. Prentiss Bailey	“	2,000 00	“	November 22, 1892
W. D. McKinstry	“	2,000 00	“	November 22, 1892
John B Riley	Chief examiner	3,600 00	A	December 28, 1887
Clarence B. Angle	Secretary	1,800 00	A	March 1, 1884
John C. Birdseye	Clerk	1,500 00	B	June 1, 1884

CLINTON PRISON.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Walter N. Thayer	Agent and warden	3,500 00	C	January 1, 1892
Edward J. McKenna	Principal keeper	2,000 00	D	May 1, 1892
John Farnsworth	Clerk	2,000 00	C	April 1, 1892
J. B Ransom, M. D.	Physician	2,000 00	B	May 15, 1889
Ason Cheeseman, D. D.	Chaplain	2,000 00	A	April 15, 1892
Michael Haggerty	Hall keeper	1,200 00	D	January 28, 1876
Charles Blair	Store keeper	1,200 00	D	August 12, 1890
Daniel Read	Yard keeper	1,200 00	D	May 10, 1892
Edward Coughlin	Stenographer	900 00	B	January 18, 1892
George Olmsted	Assistant clerk	1,500 00	C	April 1, 1892
Alanson Chase	Keeper	900 00	D	July 1, 1880
James Clancey	“	900 00	D	January 1, 1884
Charles Meader	“	900 00	D	March 1, 1878
John Shine	“	900 00	D	September 1, 1883
Elijah Vogan	“	900 00	D	June 1, 1887

John Foy	"	900 00	D	June	1, 1881
William Mead	"	900 00	D	January	12, 1882
Edward Lewis	"	900 00	D	May	1, 1882
Judson Ellinwood	"	900 00	D	December	31, 1883
William Clark	"	900 00	D	June	30, 1889
D. E. Gay	"	900 00	D	April	18, 1889
Joseph Nash	"	900 00	D	February	15, 1881
Charles Moon	"	900 00	D	December	13, 1879
M. Van Gorder	"	900 00	D	February	1, 1892
Robert Long	"	900 00	D	June	30, 1888
John Hanley	"	900 00	D	January	7, 1892
Henry Burnham	"	900 00	D	January	7, 1892
Joseph Robarge	"	900 00	D	January	7, 1892
J. F. Keenan	"	900 00	D	January	7, 1892
John Marsden	"	900 00	D	March	1, 1892
W. W. Clifton	"	900 00	D	August	6, 1892
James Hart	Sergeant of guard	900 00	D	March	27, 1882
H. D. Kingsley	Guard	780 00	D	March	8, 1883
D. E. Spelman	"	780 00	D	February	20, 1888
Henry Witte	"	780 00	D	June	30, 1888
T. W. Murray	"	780 00	D	September	29, 1888
John Woods	"	780 00	D	February	17, 1892
T. McCormick	"	780 00	D	February	7, 1892
P. H. Dugan	"	780 00	D	October	1, 1891
John O'Leary	"	780 00	D	October	1, 1891
Daniel Behan	"	780 00	D	August	1, 1891
John North	"	780 00	D	June	1, 1891
A. H. Bates	"	780 00	D	October	16, 1890
Philip Kennedy	"	780 00	D	July	1, 1891
James Foley	"	780 00	D	July	7, 1891
John Hanlon	"	780 00	D	May	1, 1891
Patrick Feehan	"	780 00	D	May	15, 1891
John Lapan	"	780 00	D	November	5, 1890
F. Glasier	"	780 00	D	October	7, 1891
John Macksey	"	780 00	D	February	5, 1892
C. Johnson	"	780 00	D	April	25, 1891
Patrick Corney	"	780 00	D	January	7, 1892
John Jennings	"	780 00	D	January	7, 1892
Peter Flinn	"	780 00	D	January	26, 1892
A. L. Thayer	"	780 00	D	March	8, 1892
Edward Crum	"	780 00	D	March	9, 1892
Alexander La Porte	"	780 00	D	May	7, 1892
A. G. Galligan	"	780 00	D	May	10, 1892
William Sheehy	"	780 00	D	May	10, 1892
V. Blinn	"	780 00	D	June	21, 1882
Charles Lynan	"	780 00	D	June	22, 1892
Thomas Ormsby	"	780 00	D	April	1, 1892
W. H. De Laney	Guard	780 00	D	October	10, 1892
Orlando Mauley	Death watch	780 00	D	April	8, 1892
Orrin Henry	"	780 00	D	September	26, 1891

ROSTER OF STATE EMPLOYES, ETC.— (*Continued*) — COMPTROLLER.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Frank Campbell	Comptroller	$6,000 00	Exempt	January 1, 1892
Calvin J. Huson	Deputy	4,000 00	A	January 1, 1892
Harry E. Cole	Confidential clerk	1,500 00	A	December 7, 1885
Willis E. Merriman	Warrant clerk	2,700 00	E	January 1, 1866
Wm. G. Shaible	Accountant	2,200 00	A	August 4, 1890
Peter J. Masterson	Special accountant	1,500 00	C	October 1, 1888
Peter Sheridan	Entry clerk	1,600 00	E	June 1, 1892
Wm. B. Wemple	Voucher clerk	1,500 00	C	December 21, 1891
Charles E. Kilmer	Corporation tax clerk	1,700 00	C	December 1, 1888
Kyran Cleary	Assistant corporation tax clerk	1,500 00	C	July 1, 1889
Edwin D. Thompson	Stationery and document clerk	1,300 00	B	January 1, 1886
Andrew D. Devine	Stenographer	1,200 00	B	April 25, 1890
Sidney W. Park	Chief tax clerk	2,400 00	C	February 1, 1864
Wm. H. Sanger	First assistant tax clerk	2,000 00	C	January 1, 1880
George W. Bliss	Bookkeeper	1,500 00	E	July 20, 1877
Marcus B. Williams	Deed clerk	1,500 00	E	July 1, 1877
Miles G. Graham	Tax clerk	1,400 00	B	February 1, 1882
Edward H. Pindar	Tax correspondent	1,350 00	C	September 1, 1888
O. V. B. Taylor	Tax clerk	1,300 00	B	March 13, 1884
Prine Cavert	"	1,300 00	B	March 6, 1884
George R. Kehoe	"	1,200 00	B	February 14, 1887
Frank H. Brandow	"	1,300 00	B	February 21, 1884
Henry A. Vanderpoel	"	1,300 00	B	February 25, 1884
James G. Grindley	"	1,200 00	B	March 22, 1890
S. E. Hutton	"	1,200 00	B	May 15, 1890
Charles W. Gibbs	"	1,200 00	B	April 28, 1890
Charles Gould	"	1,200 00	B	October 1, 1890
Fred G. Wickham	Special clerk	1,200 00	B	July 1, 1889
George H. Birchall	Chief clerk canal department	1,900 00	E	January 1, 1866
Thomas W. Cantwell	Clerk, canal department	1,300 00	B	March 1, 1891
James S. Love	Assistant corporation tax clerk	1,400 00	B	April 1, 1892
James J. Fitzgerald	Tax clerk	1,000 00	B	February 14, 1887
Fred Bryce	"	1,200 00	B	August 20, 1892
S. A. Skinner	"	1,200 00	B	May 11, 1892
Fred McConnell	"	1,400 00	B	June 15, 1892
Wm. J. Trimble	Copyist and assistant accountant	1,200 00	B	April 1, 1888
Worthington S. Farley	Messenger	1,000 00	C	February 19, 1891

COURT OF APPEALS.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Charles Andrews	Chief judge	12,500 00	Exempt	January 1, 1893
Robert Earl	Associate judge	12,000 00	"	January 1, 1876

Francis M. Finch	" "	12,000 00	Exempt	January	1, 1882
Rufus W. Peckham	" "	12,000 00	"	January	1, 1887
John Clinton Gray	" "	12,000 00	"	January	25, 1888
Denis O'Brien	" "	12,000 00	"	January	1, 1890
Isaac H. Maynard	" "	12,000 00	"	January	20, 1892
Gorham Parks	Clerk	5,000 00	A	January	25, 1889
William H. Shankland	Deputy clerk	3,000 00	A	April	1, 1882
Hiram E. Sickles	Reporter	5,000 00	A	March	1, 1872
Robert D. Cook	Crier	1,500 00	A	October	1, 1884
Alfred S. Brolley	Stenographer	2,500 00	A	January	1, 1882
Buel C. Andrews	"	1,800 00	A	June	26, 1883
William J. Hillis	"	1,500 00	A	January	28, 1884
Andrew J. Chester	Attendant	1,500 00	A	January	1, 1876
Edmund H. Smith	Financial clerk	2,000 00	B	January	30, 1889
Richard M. Barber	Remittitur clerk	2,500 00	C	March	1, 1868
William Honig	Chancery clerk	2,000 00	E	July	1, 1879
G. Herbert Cohen	Messenger	800 00	A	March	20, 1889

COURT, BOARD OF POLICE JUSTICES, NEW YORK CITY.

Patrick G. Duffy	Police justice	8,000 00	Exempt	January	19, 1883
James T. Kilbreth	" "	8,000 00	"	January	9, 1883
Solon B. Smith	" "	8,000 00	"	December	10, 1880
Charles Welde	" "	8,000 00	"	January	5, 1884
Andrew J. White	" "	8,000 00	"	November	22, 1881
Edward Hogan	" "	8,000 00	"	May	22, 1889
Daniel F. Mahon	" "	8.000 00	"	May	10, 1889
Charles F. Taintor	" "	8,000 00	"	May	22, 1889
Clarence W. Meade	" "	8,000 00	"	August	28, 1890
Patrick Divver	" "	8,000 09	"	December	18, 1890
Thomas F. Grady	" "	8,000 00	"	November	9, 1891
John R. Voorhis	" "	8,000 00	"	February	29, 1892
George W. Cregier	Secretary and clerk	4,000 00	A	January	1, 1877
Henry C. Perly	Police clerk	3,000 00	A	January	1, 1882
C. M. Smyth	" "	3,000 00	A	January	1, 1882
Jeremiah Hays	" "	3,000 00	A	December	1, 1889
Joseph Farley	" "	3,000 00	A	July	1, 1891
James McCabe	" "	3,000 00	A	January	1, 1892
David Crocheron	Clerk's assistant	2,000 00	C	June	13, 1885
Thomas Dinnean	" "	2,000 00	C	February	1, 1888
Bernard Malone	" "	2,000 00	C	January	1, 1885
John E. McGown	" "	2,000 00	C	November	11, 1873
George H. Davis	" "	2,000 00	C	April	1, 1888
Solomon Rosenthal	" "	2,000 09	C	December	1, 1889
John Gavigan	" "	2,000 00	C	December	1, 1889
Thomas J. Ryan	" "	2,000 00	C	December	1, 1889
Richard J. Sullivan	" "	2,000 00	C	December	31, 1889
Dominick O'Farrell	" "	2,000 00	C	January	1, 1891
Francis O'Connor	" "	2,000 00	C	November	24, 1890

ROSTER OF STATE EMPLOYES, ETC.—COURT, BOARD OF POLICE JUSTICES, NEW YORK CITY—(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Michael Dolan	Clerk's assistant	$2,000 00	C	May 25, 1891
August J. Laske	" "	2,000 00	C	January 1, 1892
Patrick McCabe	" "	2,000 00	C	January 1, 1892
Philip J. Britt	" "	2,000 00	C	January 1, 1892
Charles Welde, Jr	" "	2,000 00	C	January 1, 1892
L. M. Ormsby, Jr	Stenographer	2,000 00	C	January 31, 1885
D. C. Seltman	"	2,000 00	C	January 31, 1885
Michael J. Tracey	"	2,000 00	C	January 31, 1885
George Zeiger	"	2,000 00	C	June 30, 1890
John Frederick	Interpreter	1,200 00	A	February 1, 1882
Francis P. Knapp	"	1,200 00	A	November 26, 1877
Michael Trageser	"	1,200 00	A	November 10, 1877
C. F. Winkelman	"	1,200 00	A	May 25, 1885
Louis Aikle	Attendant	1,200 00	C	January 1, 1892

CITY COURT, BROOKLYN.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Nathaniel H. Clement	Chief judge	10,000 00	Exempt	January 1, 1883
Augustus Van Wyck	"	10,000 00	"	January 1, 1885
William J. Osborne	"	10,000 00	"	January 1, 1887
John P. Hudson	Clerk	3,200 00	A	January 27, 1892
Dennis McNamara	Deputy clerk	2,500 00	A	December 1, 1888
W. K. Van Valkenburgh	Special deputy clerk	1,800 00	A	May 8, 1877
William H. Riley	" "	1,800 00	A	July 1, 1879
Charles H. Farrell	" "	1,800 00	A	July 1, 1882
Andrew Beck	" "	1,800 00	A	November 19, 1883
Thomas Shevlin	" "	1,800 00	A	August 1, 1891
Timothy Bigelow	Stenographer	2,500 00	C	September 1, 1875
John E. Norcross	"	2,500 00	C	January 1, 1871
Senter H. Ormsby	"	2,500 00	C	June 1, 1891
Bernhard Midas	Interpreter	1,200 00	A	November 12, 1886
John Malley	Court officer	1,200 00	C	May 5, 1870
Nicholas Doyle	"	1,200 00	C	May 5, 1870
Daniel S. Blake	"	1,200 00	C	January 17, 1871
H. C. Croakright	"	1,200 00	C	January 17, 1871
James McLaughlin	"	1,200 00	C	November 28, 1874
Patrick Nolan	"	1,200 00	C	January 5, 1885
James Shannon	"	1,200 00	C	January 4, 1887
James Donovan	"	1,200 00	C	June 15, 1887
John Spaulding	Attendant	1,200 00	C	February 14, 1889
Edward W. Grant	"	1,200 00	C	August 1, 1891
Lorenzo J. Farrell	"	1,200 00	C	March 7, 1892
James Flaherty	"	1,200 00	C	June 1, 1892

CITY COURT, NEW YORK CITY.

Simon M. Ehrlich	Chief justice	10,000 00	Exempt	January	1, 1892
Henry P. McGown	Justice	10,000 00	Exempt	January	1, 1888
James M. Fitzsimons	"	10,000 00	Exempt	January	1, 1891
Robert A. Van Wyck	"	10,000 00	Exempt	January	1, 1890
Joseph E. Newburger	"	10,000 00	Exempt	January	1, 1891
John Henry McCarthy	"	10,000 00	Exempt	January	1, 1892
John B. McGoldrick	Chief clerk	3,000 00	A	January	28, 1892
Henry P. McGown, Jr	Deputy clerk	2,000 00	A	February	15, 1888
Joseph A. Jacobs	" "	2,000 00	A	March	6, 1888
Edward Piepenbring	" "	2,000 00	A	October	28, 1892
George Croker	Assistant clerk	2,000 00	C	January	1, 1877
J. J. McCloskey	" "	2,000 00	C	January	3, 1878
Christian Schieck, Jr.	" "	1,500 00	C	January	6, 1882
Thomas Carroll	" "	1,500 00	C	January	16, 1884
Peter F. Murray	" "	1,500 00	C	February	1, 1886
John Graham	" "	1,500 00	C	February	20, 1888
Edward G. Tully	" "	1,500 00	C	April	1, 1888
William E. McDonald	" "	1,500 00	C	December	1, 1888
Patrick A. Gilroy	" "	1,500 00	C	February	1, 1890
Simpson Hamburger	" "	1,500 00	C	January	14, 1891
F. J. Warburton	Stenographer	2,500 00	C	April	27, 1867
Farrell O'Dowd	"	2,500 00	C	January	5, 1869
John R. Potts	"	2,500 00	C	February	23, 1889
James M. Wall	"	2,500 00	C	January	9, 1892
Michael J. Kelly	"	2,500 00	C	November	14, 1892
F. W. Hoffmann	Interpreter	1,500 00	A	February	1, 1884
Frederick Tourelle	Attendant	1,000 00	C	February	15, 1881
Lewis Schlamm	"	1,000 00	C	January	16, 1884
James Cooper	"	1,000 00	C	January	1, 1884
John Quigg	"	1,000 00	C	February	1, 1886
Moses Levy	"	1,000 00	C	February	1, 1886
Edward Brucks	"	1,000 00	C	February	6. 1888
Frederick Strauss	"	1,000 00	C	February	15, 1888
Frank P. Dunlop	"	1,000 00	C	February	20, 1888
John D. Wicking	"	1,000 00	C	March	6, 1888
John F. Sculley	"	1,000 90	C	February	1, 1890
Philip F. Schmitt	"	1,000 00	C	October	11. 1890
John E. McDermott	"	1,000 00	C	December	31, 1890
Theodore A. Hamilton	"	1,000 00	C	August	21. 1891

COURT OF COMMON PLEAS, NEW YORK CITY.

Joseph F. Daly	Chief justice	15,000 00	Exempt	January	1, 1885
Miles Beach	Justice	15,000 00	Exempt	January	1, 1880
Henry W. Bookstaver	"	15,000 00	Exempt	January	1, 1882
Henry Bischoff, Jr.	"	15,000 00	Exempt	January	1, 1890
Roger A. Pryor	"	15,000 00	Exempt	October	1, 1890

ROSTER OF STATE EMPLOYES, ETC.— COURT OF COMMON PLEAS, NEW YORK CITY —(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Leonard A. Giegerich	Justice	$15,000 00	Exempt	October 1, 1891
Alfred Wagstaff	Clerk	6,000 00	A	June 23, 1892
John B Jarvis	Deputy clerk	2,000 00	A	December 4. 1882
Joseph B. Coe	" "	2,000 00	A	January 1, 1890
William S. Keilly	Assistant clerk	2,500 00	C	January 2, 1891
Isaiah Keyser	" "	2,500 00	C	January 1, 1864
W. P. Richardson	" "	2,500 00	C	April 1, 1858
James P. Rogers	" "	2,500 00	C	October 1, 1870
Nathan S. Jarvis	" "	2,500 00	C	January 2, 1871
Chas. F. Koehler	" "	2,500 00	C	March 1, 1874
John H. Loos	" "	2,500 00	C	January 1, 1876
Chas. O'Connell	" "	2,500 00	C	June 29, 1878
DeWitt C. Graham	" "	1,500 00	C	January 1, 1883
Wm. L. Taylor	" "	1,500 00	C	May 1, 1884
Edwin Coe	" "	1,500 00	C	January 1, 1890
Joseph H. Brown	" "	1,500 00	C	September 15, 1890
Denis McLaughlin	" "	1,500 00	C	December 24, 1890
Wm. Geoghegan	" "	1,500 00	C	June 3, 1892
George A. Tellman	Secretary	1,800 00	C	October 3. 1892
Joseph Haughton	"	1,800 00	C	November 4. 1892
A. Sidney Norton	"	1,800 00	C	December 23, 1892
J. A. McKim	"	1,800 00	C	December 23, 1892
John P. Browning	"	1,800 00	C	December 27, 1892
Albert C Cochrane	Stenographer	2,500 00	C	March 1, 1872
Clifton Ball	"	2,500 00	C	March 15, 1880
John Cotter	"	2,500 00	C	May 4, 1880
John Standfast	"	2,500 00	C	August 4, 1890
Peter J. Loughlin	"	2,500 00	C	December 27, 1892
George Greene	Attendant	1,200 00	C	February 18. 1868
Thomas Sweeny	"	1,200 00	C	April 29, 1872
John Martin	"	1,200 00	C	April 29, 1872
Wm. O'Neil	"	1,200 00	C	April 29, 1872
John Schutz	"	1,200 00	C	October 1. 1870
Michael Hall	"	1,200 00	C	April 9, 1872
Theo. Henry	"	1,200 00	C	June 1, 1875
John Murphy	"	1,200 00	C	May 7, 1877
A H. Hicks	"	1,000 00	C	October 31, 1884
Thos. F Daly	"	1,000 00	C	October 31, 1884
A. M. Erlich	"	1,000 00	C	June 9, 1884
Andrew Hanneman	"	1,000 00	C	January 1, 1886
James Murphy	"	1,000 00	C	March 15, 1887
James Campbell	"	1,000 00	C	January 27, 1888

John W. Jones	"	1,000 00	C	December	2, 1890
John McQuade	"	1,000 00	C	July	7, 1892
John Rottkamp	"	1,000 00	C	December	7, 1892
David Cohn	"	1,000 00	C	December	23, 1892
Hugh J. McEvoy	"	1,000 00	C	December	31, 1892

COURT OF GENERAL SESSIONS, NEW YORK CITY.

Frederick Smythe	Recorder	12,000 00	Exempt	January	1, 1881
Rufus B. Cowing	City judge	12,000 00	Exempt	January	1, 1892
Randolph B. Martine	Justice	12,000 00	Exempt	January	1, 1888
James Fitzgerald	"	12,000 00	Exempt	January	1, 1890
John F. Carroll	Clerk	7,000 00	A	January	19, 1892
Edward J. Hall	Deputy clerk	5,000 00	C	October	1, 1872
William Moser, Jr	Assistant clerk	3,000 00	C	October	1, 1879
Henry Welsh	" "	2,500 00	C	April	1, 1879
James P. Davenport	" "	2,500 00	C	March	1, 1887
William N. Penney	" "	3,000 00	C	March	1, 1890
Albert Elterich	" "	1,200 00	C	October	1, 1881
William Anderson	Stenographer	2,500 00	C	October	1, 1863
Frank S. Beard	"	2,500 00	C	January	1, 1886
Peter McLoughlin	"	2,500 00	C	March	1, 1887
Philip Dollin	Interpreter	2,500 60	A	March	1, 1874
Albert J. Alsing	"	2,000 00	A	March	1, 1877
Hannibal G. Cutuguo	"	2,000 00	A	May	1, 1889
John Birmingham	Warden of grand jury	2,000 00	C	July	1, 1891
William Colligan	Attendant	1,200 00	C		1876
James R. Cosgrove	"	1,200 00	C		1879
Richard Cullen	"	1,200 00	C		1879
Lawrence Curry	"	1,200 00	C		1879
Thomas J. Dolan	"	1,200 00	C		1876
John Garnett	"	1,200 00	C		1876
Charles Knight	"	1,200 00	C		1873
W. J. McNeill	"	1,200 00	C		1879
Eilert Miller	"	1,200 00	C		1879
Thomas Morris	"	1,200 00	C		1874
Patrick Myhan	"	1,200 00	C		1879
John Phillips	"	1,200 00	C		1879
Peter Seaman	"	1,200 00	C		1879
Isaac Smith	"	1,200 00	C		1876
James Waldron	"	1,200 00	C		1876
Moses Weil	"	1,200 00	C		1879
Sylvester Bennett	"	1,000 00	C		1880
Thomas Booth	"	1,000 00	C		1887
James Clark	"	1,000 00	C		1880
Richard Dougherty	"	1,000 00	C		1879
Patrick Daly	"	1,000 00	C		1879
Peter Dooling	"	1,000 00	C		1886
David Heilferty	"	1,000 00	C		1887

ROSTER OF STATE EMPLOYES, ETC.—COURT OF GENERAL SESSIONS, NEW YORK CITY — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
John Miller	Attendant	$1,000 00	C	1882
John Oakford	"	1,000 00	C	1880
Patrick O'Brien	"	1,000 00	C	1881
Michael O'Beirne	"	1,000 00	C	1887
F. J. Valentine	"	1,000 00	C	1886
Frederick Aldridge	"	1,000 00	C	May 15, 1888
Thomas Collyer	"	1,000 00	C	May 15, 1888
Martin McInerny	"	1,000 00	C	May 15, 1888
Henry Trott	"	1,000 00	C	May 15, 1888
Charles Wund	"	1,000 00	C	October 7, 1889
James Higgins	"	1,000 00	C	January 1, 1890
Michael Looney	"	1,000 00	C	January 17, 1890
Patrick O'Brien	"	1,000 00	C	January 17, 1890
James Kelly	"	1,000 00	C	January 17, 1890
John H. Hart	"	1,000 00	C	March 1, 1890
Richard McLaughlin	"	1,000 00	C	March 1, 1890
Louis Schmell	"	1,000 00	C	March 1, 1890
John Clune	"	1,000 00	C	December 15, 1890
Peter McGuire	"	1,000 00	C	June 15, 1891
John Slater	"	1,000 00	C	September 10, 1891
Alfred Walker	"	1,000 00	C	February 1, 1892
Peter Rush	"	1,000 00	C	June 1, 1892
Michael Quinn	"	1,000 00	C	December 1, 1892
John O'Reilly	"	1,000 00	C	December 31, 1892
Henry Smith	"	1,000 00	C	December 31, 1892
Alexander McQueen	"	1,000 00	C	December 31, 1892

COURT OF SPECIAL SESSIONS, NEW YORK.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
James P. Keating	Clerk	6,000 00	A	January 25, 1892
J. A. Monheimer	Deputy clerk	5,000 00	C	December 1, 1889
David Veitch	Stenographer	2,500 00	C	November 11, 1873
Gustave St. Albe	Interpreter	2,000 00	A	November 10, 1879
James Fitzpatrick	Subpœna clerk	2,000 00	C	June 29, 1885
Hugh F. Farrell	" "	2,000 00	C	January 1, 1892
Thomas J. Kelly	" "	2,000 00	C	May 31, 1892
John J. McCauley	Messenger	1,500 00	C	June 16, 1885

COURT, SUPERIOR, NEW YORK.

John Sedgwick	Chief judge	15,000 00	Exempt	January	1. 1872
John J. Freedman	Judge	15,000 00	Exempt	January	1, 1891
Charles H. Truax	"	15,000 00	Exempt	January	1, 1 81
P. Henry Dugro	"	15,000 00	Exempt	January	1, 1887
David McAdam	"	15,000 00	Exempt	January	1, 1891
Henry A. Gildersleeve	"	15,000 00	Exempt	May	2, 1891
Thomas Boese	Clerk	6,000 00	A	January	5, 1872
Willis P. Miner	Deputy clerk	2,000 00	C	September	1, 1887
J. H. H. Ward	" "	2,500 00	C	May	1, 1877
William Haviland	Assistant clerk	2,500 00	C	September	1, 1855
Owen E. Westlake	" "	2,500 00	C	January	1, 1862
George W. Russell	" "	2,500 00	C	January	1, 1873
E. C. Berckmann	" "	2,500 00	C	March	1, 1874
J. P. Wingate	" "	2,500 00	C	January	1, 1877
Clifford Boese	" "	1,500 00	C	September	1, 1877
Henry Van Hoesen	" "	1,500 00	C	October	1, 1881
James J. Duffy	" "	1,500 00	C	November	1, 1886
John W. Guntzer, Jr	" "	1,500 00	C	March	15, 1879
Cornelius J. Kane	" "	1,500 00	C	September	1, 1887
Patrick H. Whalen	" "	1,500 00	C	October	1, 188
David J. Daly	" "	1,500 00	C	December	19, 1891
Nicholas J. Hayes	" "	1,500 00	C	January	9, 1892
Henry M. Parkhurst	Stenographer	2,500 00	C	May	6, 1872
James E Munson	"	2,500 00	C	January	1, 1876
Edwin N. Robbins	"	2,500 00	C	June	8, 1879
B. L. Dusenbury	"	2,500 00	C	January	11, 1888
Bartholomew Moynahan	"	2,500 00	C	July	1, 1890
Charles L. Guy	"	2,500 00	C	January	1, 1892
Joseph O. Davis	Crier	2,000 00	C	February	1, 1890
Henry C. Petty	Attendant	1,200 00	C	January	11, 1872
Frederick Merz	"	1,200 00	C	December	15, 1876
James Cherry	"	1,000 00	C	January	1, 1883
Samuel Neilson	"	1,000 00	C	February	1, 1884
Edward R. Watson	"	1,000 00	C	March	1, 1885
Thomas Hume	"	1,000 00	C	November	1, 1885
John D. Newman, Jr	"	1,000 00	C	January	1, 1888
Albert Sauders	"	1,000 00	C	February	15, 1888
Frederick Kropp	"	1,000 00	C	September	1, 1888
Frederick E. Worch	"	1,000 00	C	May	7, 1889
Henry Dyer	"	1,000 00	C	September	1, 1889
Andrew Dewitt	"	1,000 00	C	December	1, 1889
John G. Roesch	"	1,000 00	C	November	21, 1899
John F. Reilly	"	1,000 00	C	January	10, 1891
Reginald H. Williams	"	1,000 00	C	May	16, 1891
James P. Wallace	"	1,000 00	C	July	31, 1891
Daniel A. Sheehan	"	1,000 00	C	November	17, 1891
John F. Berrigan	"	1,000 00	C	December	5, 1891
Joseph F. Earley	"	1,000 00	C	January	13, 1892
Morgan J. Skiddy	"	1,000 00	C	December	17, 1892

ROSTER OF STATE EMPLOYES, ETC.—(*Continued*).—COURT, SUPREME, NEW YORK.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.	
Charles H. Van Brunt	Chief Justice	$11,500 00	Exempt	January	1, 1883
Abraham R. Lawrence	Justice	11,500 00	Exempt	January	1, 1887
George C. Barrett	"	11,500 00	Exempt	January	1, 1885
George P. Andrews	"	11,500 00	Exempt	January	1, 1883
Edward Patterson	"	11,500 00	Exempt	January	1, 1886
Morgan J. O'Brien	"	11,500 00	Exempt	January	1, 1887
George L. Ingraham	"	11,500 00	Exempt	January	1, 1892
Henry D. Purroy	County clerk and clerk Supreme Court	15,000 00	Exempt	January	1, 1893
Edwin A. Kingsley	Stenographer	2,500 00	C	November	1, 1889
David J. Lees	Clerk	2,000 00	C	February	28, 1874
Marcus W. Hebberd	"	1,800 00	C	June	11, 1884
William H. Burke	"	1,800 00	C	January	1, 1887
William H. Buck	"	1,800 00	C	June	1, 1890
James J. Connor	"	1,800 00	C	May	15, 1891
Frederick W. Hoffman	Interpreter	2,500 00	A	October	5, 1891
Samuel Goldberg	Librarian	1,500 00	C	February	1, 1889
James McNierney	Attendant	1,200 00	C	July	1, 1869
Michael Brophy	"	1,200 00	C	February	28, 1874
Julius B Arnold	"	1,200 00	C	February	28, 1874
James E. McVeaney	"	1,200 00	C	May	1, 1874
Peter McLeer	"	1,200 00	C	February	28, 1874
Michael Martin	"	1,200 00	C	January	3, 1876
John Arnold	"	1,200 00	C	January	15. 1876
Timothy O'Brien	"	1,200 00	C	February	19, 1868
John Nolan	"	1,200 00	C	February	28, 1874
Benjamin W. Buchanan	"	1,200 00	C		
Thomas Brennan	"	1,000 00	C	April	1, 1888
John Martin	"	1,000 00	C	March	1. 1886
Philip Furlong	"	1,000 00	C	February	1, 1883
Peter Halpin	"	1,000 00	C	February	2, 1888
George Nash	"	1,000 00	C	June	10, 1884
Joseph Stack	"	1,000 00	C	June	10, 1884
John Barnbach	"	1,000 00	C	April	1, 1888
James McGuire	"	1,000 00	C	November	1, 1887
Augustus Murphy	"	1,000 00	C	January	1, 1888
Adolph Welde	"	1,000 00	C	March	21, 1889
William J. Lynch	"	1,000 00	C	July	1, 1889
John McCartney	"	1,000 00	C	July	1, 1889
Henry Howe	"	1,000 00	C	April	4, 1891
August Welde	"	1,000 00	C	June	1, 1891
Michael Sullivan	"	1,000 00	C	November	4, 1891
Nathaniel A. Jarvis	"	1,000 00	C	January	1, 1892

A. B. MacDonald	"	1,000 00	C	April	18, 1892
John J. McDermott	"	1,000 00	C	June	1, 1891
Wm. Hannah	"	1,000 00	C	November	1, 1892

FIRST DISTRICT COURT, BROOKLYN.

Jacob Neu	Justice	5,000 00	Exempt	January	1, 1891
Edward Moran	Chief clerk	1,800 00	A.	December	27, 1883
Thomas Goodwin	Clerk	1,600 00	C	January	23, 1891
Charles J. O'Neil	"	1,200 00	C	June	1, 1892
Jos. N. B. Rawle	Stenographer	1,800 00	C	April	30, 1887

FIRST DISTRICT COURT, NEW YORK CITY.

Wanhope Lynn	Justice	6,000 00	Exempt	May	13, 1892
Louis C. Bruns	Clerk	3,000 00	Exempt	August	1, 1882
John Purcell	Assistant clerk	3,000 00	Exempt	December	1, 1888
Wm. W. Vaughn	Stenographer	2,000 00	C	January	1, 1888
Bruno Bocks	Interpreter	1,200 00	A.	January	1, 1882
Dennis McGinty	Janitor	900 00	C	January	15, 1882
John McGrath	Attendant	1,000 00	C	November	15, 1889
Michael Brennan	"	1,000 00	C	December	1, 1892

SECOND DISTRICT COURT, BROOKLYN.

John Petterson	Justice	5,000 00	Exempt	May	1, 1888
Michael Sheilds	Clerk	1,800 00	A.	June	1, 1880
Charles F. Wolz	Assistant Clerk	1,500 00	C	June	6, 1888
Wm. W. Richards	" "	1,200 00	C	April	1, 1892
Andrew E. Colvin	Clerk and stenographer	1,500 00	C	March	1, 1889
Alexander R. Black	Stenographer	600 00	C	March	1, 1882
Jacob F. Becker	Interpreter	1,200 00	A.	July	16, 1871
Frederick Wolz	Janitor	600 00	C	April	1, 1890

SECOND DISTRICT COURT, NEW YORK CITY.

Charles M. Clancy	Justice	6,000 00	Exempt	January	1, 1874
James Dunphy	Clerk	3,000 00	Exempt	January	1, 1873
Francis Mangin	Assistant clerk	3,000 00	Exempt	January	1, 1876
Samuel Wolf	Stenographer	2,000 00	C	January	1, 1876
Deidrich Knabe	Interpreter	1,200 00	A	January	1, 1874
James McCullough	Janitor	900 00	C	September	15, 1883
Hugh Taggart	Attendant	1,000 00	C	November	15, 1888
John Martin	"	1,000 00	C	May	25, 1889

ROSTER OF STATE EMPLOYES, ETC.—(*Continued*).—THIRD DISTRICT COURT, BROOKLYN.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Edward C. Murphy	Justice	$5,000 00	Exempt	January 1, 1892
James Dillon	Clerk	1,800 00	A	May 1, 1888
Arthur J. Higgins	Assistant clerk	1,500 00	C	May 1, 1888
John W. Richards	Stenographer	1,800 00	C	June 1, 1892
Alexander Black	Stenographer	600 00	C	March 1, 1882
Emil Klebaur	Interpreter	1,200 00	A	June 30, 1888
Robert Snyder	Janitor	900 00	C	February 16, 1886

THIRD DISTRICT COURT, NEW YORK CITY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
William F. Moore	Justice	6,000 00	Exempt	June 19, 1890
William H. Corsa	Clerk	3,000 00	Exempt	November 18, 1890
Daniel Williams	"	3,000 00	Exempt	October 24, 1878
Valencourt S. Lillic	Stenographer	2,000 00	C	December 6, 1892
Joseph Weill	Interpreter	1,200 00	A	November 12, 1882
Daniel Mooney	Janitor	900 00	C	January 1, 1882
James F. Murphy	Attendant	1,000 00	C	February 1, 1891
Michael Bergin	"	1,000 00	C	November 26, 1892

FOURTH DISTRICT COURT, NEW YORK CITY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Alfred Steckler	Justice	6,000 00	Exempt	January 1, 1882
Julius Harburger	Clerk	3,000 00	Exempt	December 20, 1887
Stephen J. Herbert	Assistant clerk	3,000 00	Exempt	June 1, 1892
Caleb H. Redfern	Stenographer	2,000 00	C	December 20, 1887
David Hirsch	Interpreter	1,200 00	A	February 19, 1892
Patrick Brady	Janitor	900 00	C	December 16, 1887
Francis McNicol	Attendant	1,000 00	C	December 16, 1887
Joseph Blackgrove	"	1,000 00	C	August 15, 1889

FIFTH DISTRICT COURT, NEW YORK CITY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Henry M. Goldfogle	Justice	6,000 00	Exempt	
John Duane, Jr.	Clerk	3,000 00	Exempt	
James H. Sheils	Assistant clerk	3,000 00	Exempt	
James McAlarney	Attendant	1,000 00	C	
James Laverty	"	1,000 00	C	

Arthur F. Ducret	Stenographer	2,000 00	C	
Charles J. Newman	Janitor	900 00	C	
Jacob Katz	Interpreter	1,200 00	A	

SIXTH DISTRICT COURT, NEW YORK CITY.

Samson Lachman	Justice	6,000 00	Exempt	January 1, 1888
Philip Ahern	Clerk	3,000 00	Exempt	December 30, 1887
Abram Bernard	Assistant clerk	3,000 00	Exempt	December 30, 1887
Frank A. Pollard	Stenographer	2,000 00	C	December 31, 1892
George G Banzer	Interpreter	1,200 00	A	January 2, 1891
Daniel F. O'Connor	Janitor	900 00	C	January 1, 1893
Charles Boyle	Attendant	1,200 00	C	January 15, 1876
Patrick McConnell	“	1,000 00	C	February 1, 1890

SEVENTH DISTRICT COURT, NEW YORK CITY.

John B. McKean	Justice	6,000 00	Exempt	January 1, 1890
Sylvester E. Nolan	Clerk	3,000 00	Exempt	December 1, 1889
Patrick McDavitt	Assistant clerk	3,000 00	Exempt	March 1, 1887
George A. Moulter	Stenographer	2,000 00	C	January 1, 1882
Frederick Fischer	Interpreter	1,200 00	A	February 1, 1886
William Farley	Janitor	900 00	C	July 1, 1891
Julius Johnson	Attendant	1,000 00	C	January 1, 1882
Edward Foran	“	1.000 00	C	January 1, 1882

EIGHTH DISTRICT COURT, NEW YORK CITY.

John Jeroloman	Justice	6,000 00	Exempt	January 1, 1888
C. G. Archibald	Clerk	3,000 00	Exempt	January 1, 1876
Thomas Costigan	Assistant clerk	3,000 00	Exempt	June 3, 1890
Thomas W. Osborne	Stenographer	2,000 00	C	April 1, 1890
Robert J. Cook	Interpreter	1,200 00	A	June 1, 1889
David T. Hickey	Janitor	900 00	C	November 7, 1892
John Torney	Attendant	1,000 00	C	March 1, 1888
William Heim	“	1,000 00	C	March 7, 1888
John J. Wall	“	1,000 00	C	February 1, 1888

NINTH DISTRICT COURT, NEW YORK CITY.

Joseph P. Fallon	Justice	6,000 00	Exempt	January 1, 1888
William J. Kennedy	Clerk	3,000 00	Exempt	January 1, 1892
Francis McMullen	Assistant clerk	3,000 00	Exempt	January 1, 1892
Evan S. Webster	Stenographer	2,000 00	C	December 1, 1892
John Theiss	Interpreter	1,200 00	A	February 17, 1888
John Golden	Janitor	900 00	C	March 1, 1892
Charles Lambert	Attendant	1,000 00	C	February 17, 1888
James Farrell	“	1,000 00	C	October 1, 1887

ROSTER OF STATE EMPLOYES, ETC.—(*Continued*)—TENTH DISTRICT COURT, NEW YORK CITY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
William G. McCrea	Justice	$6,000 00	Exempt	January 1, 1892
William H. Germain	Clerk	3,000 00	Exempt	November 30, 1891
Richard D. Hamilton	Assistant clerk	3.000 00	Exempt	November 19, 1886
Charles F. Tinkham	Stenographer	2,000 00	C	January 1, 1886
Henry Brann	Interpreter	1,200 00	A	June 7, 1892
Charles S. Walker	Janitor	900 00	C	June 1, 1892
Joseph H. Batey	Attendant	1,000 00	C	June 1, 1892
Michael J. Sullivan	"	1,000 00	C	June 1, 1892

ELEVENTH DISTRICT COURT, NEW YORK CITY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Thomas E. Murray	Justice	6,000 00	Exempt	January 1, 1886
James J. Galligan	Clerk	3,000 00	Exempt	January 5, 1891
Hugh Grant	Assistant clerk	3,000 00	Exempt	May 15, 1889
Henry G. Smith	Stenographer	2,000 00	C	January 1, 1885
Martin Senger	Interpreter	1,200 00	A	January 1, 1885
Patrick Sexton	Janitor	900 00	C	January 1, 1885
Cornelius Foley	Attendant	1,000 00	C	April 1, 1887
James F. Grady	"	1,000 00	C	January 1, 1891

CUSTODIAL ASYLUM FOR WOMEN.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
W. L. Willett	Superintendent	1,000 00	C	April 1, 1886
Kate Willet	Matron	500 00	C	April 1, 1886
M. Alice Brownell, M. D	Physician	600 00	C	August 22, 1891
Lizzie Baldridge	Assistant matron	200 00	C	November 1, 1882
Jennette Buell	" "	200 00	C	November 1, 1887
L. M. Pease	" "	200 00	C	October 1, 1891
Deborah Tucker	Teacher	200 00	B	August 1, 1879
Emma Mentz	"	156 00	B	September 1, 1892
Mary Bastian	Attendants	108 00	D	March 1, 1883
Frankie Barrett	"	108 00	D	July 1, 1889
Sarah Erwin	"	108 00	D	October 1, 1889
Flora Frech	"	108 00	D	January 1, 1890
Susan Brown	"	108 00	D	February 1, 1890
Edna Perry	"	108 00	D	May 1, 1890
Lena Paul	"	108 00	D	May 1, 1890
Lizzie Hover	"	108 00	D	August 1, 1890
Hannah Weller	"	108 00	D	August 11, 1890
S. A. Cooper	"	108 00	D	November 18, 1890

Belle Holiday	"	108 00	D	December	1, 1890
Etta Daniels	"	108 00	D	January	1, 1891
Jessie Bostwick	"	108 00	D	March	26, 1891
Emma Bastian	"	108 00	D	March	30, 1891
Nellie Cooper	"	120 00	D	April	1, 1891
Eliza Everts	"	108 00	D	May	1, 1891
Phœbe Genthner	"	108 00	D	September	1, 1891
Emma Paul	"	108 00	D	October	9, 1891
Martha Howland	"	120 00	D	January	1, 1892
Mary Cuttoo	"	120 00	D	February	1, 1892
Vina Lechmer	"	120 00	D	March	19, 1892
Sarah Purduyn	"	108 00	D	April	25, 1892
Lena Converse	"	108 00	D	May	25, 1892
Carrie Burns	"	108 00	D	September	1, 1892
Audrey Hanby	"	108 00	D	September	1, 1892
Emma Tucker	"	120 00	D	September	1, 1892
E. A. Stephens	Night-watch	156 00	D	February	23, 1891
Mary Husted	Nurse	180 00	D	November	1, 1891
Alvina Werner	"	180 00	D	January	1, 1892
A. A. Fredenburgh	"	180 00	D	October	1, 1892
Susette Fischer	"	180 00	D	December	1, 1892
D. J. Rehklau	Engineer	720 00	D	September	22, 1892
James Woolson	Assistant engineer	480 00	D	January	11, 1892

DAIRY COMMISSIONER.

Josiah K. Brown	Commissioner	3,000 00	Exempt	May	2, 1884
B. F. Van Valkenburgh	Assistant commissioner	2,500 00	A	July	1, 1884
George L. Flanders	"	2,000 00	A	May	31, 1884
P. J. Sutley	"	2,000 00	A	June	30, 1887
F. D. Tuthill	"	1,800 00	A	November	1, 1887
James H. Brown	"	1,500 00	A	November	1, 1888
John H. Foley	"	1,800 00	A	May	1, 1890
Peter H. Parker	"	1,200 00	A	July	1, 1890
J. W. McMahon	"	2,000 00	A	May	1, 1891
George J Zillig	"	2,000 00	A	June	30, 1891
Charles D. Mone	"	1,800 00	A	July	1, 1892
R. D. Clark	Chemist	2,000 00	A	July	1, 1884
Samuel Lattimore	"	1,200 00	A	December	1, 1886
W. E. McDuffie	"	1,200 00	A	January	1, 1892
E. S. Wilson	Expert and agent	1,260 00	A	May	30, 1884
George B. Fellows	" "	1,200 00	A	August	21, 1884
O. S. Griffis	" "	960 00	A	September	1, 1884
John W. Walsh	" "	1,200 00	A	October	26, 1887
John E. Cady	" "	900 00	A	July	1, 1888
George W. Price	" "	960 00	A	March	30, 1889
John J. Coughlin	" "	1,200 00	A	June	1, 1889
Charles J. Morganstern	" "	960 00	A	July	1, 1889
W. J. Corbett	" "	960 00	A	July	1, 1889

ROSTER OF STATE EMPLOYES, ETC. — DAIRY COMMISSIONER — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
W. W. Meeter	Expert and agent	$1,200 00	A	August 22, 1884
Archibald D. Clark	" "	1,200 00	A	September 10, 1885
Simon Nussbaum	" "	1,200 00	A	July 1, 1886
Samuel Abrams	" "	1,200 00	A	June 19, 1889
George Bernhard	" "	1,200 06	A	September 10, 1889
Michael Galligan	" "	900 00	A	June 1, 1886
R. H. Palmer	" "	960 00	A	July 1, 1890
William B. Howard	" "	900 00	A	January 1, 1891
Charles S. Kellogg	" "	900 00	A	October 4, 1884
Grove Barnum	" "	960 00	A	June 1, 1891
Charles Burke	" "	1,200 00	A	June 1, 1891
Frank E. Geise	" "	900 00	A	June 1, 1891
John T. Norton	" "	1,200 00	A	March 15, 1892
M. A. Perry	" "	1,200 00	A	December 1, 1890
J. M. Quigley	" "	900 00	A	August 1, 1891
H. A. Reis	" "	900 00	A	August 1, 1891
L. E. Scrafford	" "	900 00	A	July 6, 1891
E. A. Ayres	" "	5 00 per day	A	July 1, 1892
John H. Berry	" "	3 00 per day	A	August 24, 1892
W. G. Spence	" "	3 00 per day	A	July 1, 1884
Putnam C. Hart	" "	960 00	A	August 1, 1892
Charles F. Nash	" "	960 00	A	September 1, 1892
J. B Whiteman	" "	1,200 00	A	June 1, 1888
W. W. Hall	Cheese expert	5 00 per day	A	June 20, 1888
George A. Smith	Cheese instructor	1,200 00	A	July 25, 1888
M. T. Morgan	"	5 00 per day	A	September 17, 1889
Hoffman Ruger	Vinegar expert	900 00	A	August 1, 1889
A. S. Delano	"	1,200 00	B	February 1, 1891
John M. Hutchings	Stenographer	480 00	A	February 1. 1892
John A. Miller	Chemist	1,200 00	A	November 1, 1892

ELMIRA REFORMATORY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Z. R. Brockway	Superintendent	3,500 00	C	
James Van Etten	Confidential assistant	1,000 00	A	May 1, 1892
H. B. Brockway	Transfer officer	900 00	B	June 13, 1877
H. D. Wey, M. D	Physician	800 00	B	January 1, 1879
J. J. Bloomer	Chaplain	240 00	A	January 1, 1877
Oscar Hoppe	Clerk	900 00	B	March 1, 1883
Byron M. Child	Bookkeeper	1,000 00	B	October 1, 1892
H. F. Bush	Telegraph operator	600 00	B	August 19, 1885

Christopher Gartland	Electrician	900 00	D	December	7, 1887
K. Ogimura	"	600 00	D	September	21, 1888
John Berthold	Instructor	360 00	D	June	19, 1888
Claude Bryant	"	900 00	D	October	1, 1889
A Cravath	Telegraph operator	240 00	B	March	28, 1892
E. E. Clark	Electrician	900 00	D	July	18, 1892
L. C. Hall	Photographer	900 00	D	August	1, 1892
William Snyder	Printer	600 00	D	September	1, 1892
Edward Stow	Plumber	900 00	D	September	22, 1892
Arthur Lafon	Instructor	1,000 00	D	November	24, 1892
J. J. Birmingham	Bookbinder	600 00	D	December	19, 1892
John Ennis	Farmer	480 00	D	October	19. 1876
Ernest Jentz	Tailor	600 00	D	January	1, 1884
James McCanna	Shoemaker	600 00	D	March	3, 1886
Oscar Thompson	Carpenter	840 00	D	November	23, 1886
A Bandorf	Moulder	1,200 00	D	October	3, 1887
George Cleary	Gardener	600 00	D	March	10, 1890
Benjamin Bardwell	Shipper and packer	480 00	D	November	23, 1891
Patrick McCarthy	Tinsmith	480 00	D	July	1, 1892
P. A. Pritchard	Blacksmith	600 00	D	August	15, 1892
C B. Jones	Engineer	900 00	B	October	6, 1892
R S. Wood	Foreman	1,300 00	D	October	20, 1892
Felix Phillips	"	1,300 00	D	November	7, 1892
A. J. Porter	"	1,300 00	D	November	9, 1892
Joseph Kerr	"	720 00	D	July	3, 1889
James Menlendyke	"	720 00	D	December	23, 1889
David Shay	"	900 00	D	July	5, 1892
P. O. Rickey	Watchman	720 00	D	January	15, 1880
Thomas Murray	"	240 00	D	September	26, 1887
James Lyman	"	360 00	D	November	3, 1888
George Genter	Doorman	360 00	D	November	24, 1892
Peter Finnegan	Hospital steward	360 00	D	October	11, 1892
Leroy Tabor	Machinist	720 00	D	October	6, 1892
Frank LaPointe	"	600 00	D	September	22, 1887
Thomas McLoughlin	Overseer	480 00	D	May	1, 1880
Samuel Sample	"	420 00	D	April	2, 1888
Fred. Weick	Chair finisher	480 00	D	September	7, 1887
B. Spencer	Guard	420 00	B	July	24. 1876
Henry Lane	"	480 00	B	June	14, 1886
John Bigley	"	360 00	B	June	23, 1886
Eli Beary	"	360 00	B	August	22, 1887
M. C. Barbour	"	360 00	B	August	1, 1887
Thomas Murphy	"	360 00	B	November	9. 1887
F. A. Bowman	"	360 00	B	July	10, 1888
R. R. Miller	"	360 00	B	November	5. 1888
C. N. Green	"	360 00	B	January	28, 1890
Daniel Loid	"	360 00	B	July	5, 1890
Samuel Cummings	"	360 00	B	July	29. 1890
W. Lazenby	"	360 00	B	September	9, 1890
B. D. Fuller	"	360 00	B	September	21, 1891

ROSTER OF STATE EMPLOYES, ETC. — ELMIRA REFORMATORY — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
W. H. Rockwell	Guard	$360 00	B	May 5, 1892
Patrick O'Rorke	"	360 00	B	April 9, 1892
A. Decker	"	360 00	B	May 2, 1892
William Clair	"	360 00	B	September 5, 1892
Jesse McNish	"	360 00	B	June 9, 1892
James Erwin	"	360 00	B	June 25, 1892
Charles Whitlock	"	360 00	B	June 25, 1892
William Sayre	"	360 00	B	July 8, 1892
William Reynolds	"	360 00	B	October 1, 1892
W. McDonald	"	360 00	B	October 4, 1892
Albert Sheive	"	360 00	B	October 24, 1892
Jacob Butterfuss	"	360 00	B	September 28, 1892
Frank Lynch	"	360 00	B	November 2. 1892
Alfred Burley	"	360 00	B	December 17. 1892
Henry Berdine	"	360 00	B	December 26, 1892
Edward Decker	"	360 00	B	December 30, 1892
James Lazenby	"	360 00	B	September 1, 1888
Luke Halpin	Paroled man	360 00	B	November 3, 1888
P. J. Howle	"	360 00	B	December 1, 1888
John Hall	"	360 00	B	June 1, 1890
Robert Wooly	"	360 00	B	June 1, 1890
Arthur Nolan	"	360 00	B	January 26, 1891
Robert West	"	360 00	B	March 19, 1891
Thomas Oliver	"	360 00	B	February 2, 1892
James Crumby	"	360 00	B	February 27, 1892
James Judge	"	360 00	B	March 5, 1892
Frederick Valentine	"	360 00	B	March 28. 1892
Moses Johnson	"	360 00	B	April 5, 1892
William Walters	"	360 00	B	April 8, 1892
Frank Thayer	"	360 00	B	April 14. 1892
Sigmund Hudis	"	360 00	B	May 9, 1892
William Haskins	"	360 00	B	May 12, 1892
Aug. Hager	"	360 00	B	May 12, 1892
Thomas Dougherty	"	360 00	B	May 16, 1892
Antonio Olivier	"	360 00	B	July 1, 1892
Peter Snits	"	360 00	B	July 7, 1892
George Ryan	"	360 00	B	July 27, 1892
John McCarthy	"	360 00	B	August 20, 1892
H. E. Cassie	"	240 00	B	August 22, 1892
Edward McAndrews	"	360 00	B	August 22, 1892
Alex. Ross	"	360 00	B	August 30, 1892
G. Leutheuser	"	360 00	B	September 1, 1892

James Boyd	"	360 00	B	October	1, 1892
Frank Whitman	"	360 00	B	October	9, 1892
H. A. Maas	"	360 00	B	October	17, 1892
W. Kingsley	"	360 00	B	October	17, 1892
W. Burke	"	360 00	B	October	22, 1892
Frank Clark	"	360 00	B	November	4, 1892
John Thomas	"	240 00	B	November	16, 1892
E. W. Young	"	360 00	B	November	19. 1892
George Love	"	360 00	B	November	21, 1892
William Winchell	"	240 00	B	December	1, 1892

ENGINEER AND SURVEYOR.

Martin Schenck	Engineer and surveyor	5,000 00	Exempt	January	1, 1892
Chapman L. Johnson	Deputy	4,000 00	A	July	23, 1886
Bernard Doyle	Chief clerk	2,500 00	C	December	1, 1892
Henry C. Parsons	Land clerk	1,800 00	E	February	14, 1886
Mrs. T. E. Sweet	Stenographer	1,000 00	B	May	1, 1888
Charles H. Whitbeck	Canal clerk	1,200 00	B	July	23, 1886
Thomas Rattoon	Clerk	1,100 00	B	September	1, 1887
John P. Kelly	Division engineer	2,400 00	A	January	1, 1892
R. R. Stuart	" "	2,400 00	A	May	16, 1892
John Bisgood	" "	2,400 00	A	January	1, 1878
Jay W. Clark	Resident engineer	2,000 00	A	January	15, 1892
David E. Whitford	" "	2,000 00	A	January	1, 1884
Alfred T. Jones	" "	2,000 00	A	November	21, 1892
T. C. Leutze	Assistant engineer	5 00 per day	B	December	13, 1887
A. C. Driscoll	" "	6 00 "	B	June	15. 1892
John R. Kaley	" "	5 00 "	B	July	29, 1892
William T. Leighton	" "	5 00 "	B	August	1, 1892
Harvey Feldmeier	" "	5 00 "	B	August	4, 1892
D. R. Lee	" "	5 00 "	B	September	1, 1892
M. W. Wilbur	Leveler	4 50 "	B	December	13, 1887
F. W. Battershal	"	4 50 "	B	September	15, 1887
Edwin Styring	"	4 50 "	B	June	1, 1892
Dorlan Clark	"	4 50 "	B	June	6, 1892
T. A. Hendrickson	"	4 50 "	B	June	15, 1892
Paul Shultze	"	4 50 "	B	June	15, 1892
C. M. Pepson	Rodman	3 50 "	B	June	29, 1887
J. H. Jones	"	3 50 "	B	December	13, 1887
James Ryan, Jr.	"	3 50 "	B	August	5, 1886
William J. Smith	"	3 50 "	B	December	1, 1887
James C. Dougrey	"	3 50 "	B	December	1, 1887
J. D. Barrett	"	3 50 "	B	September	2, 1887
John C. Clancy	"	3 50 "	B	May	1, 1890
Thomas A. Patterson	"	3 50 "	B	May	1, 1890
N. E. Whitford	"	3 50 "	B	May	1, 1890
M. J. Rosa	"	3 50 "	B	September	8, 1892
Dexter M. Teller	"	3 50 "	B	July	13, 1892

ROSTER OF STATE EMPLOYES, ETC.— ENGINEER AND SURVEYOR — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
J. T. Gaffney	Chainman	$2 50 per day	D	April 29, 1887
E. J. Waldron	"	2 50 "	D	November 25, 1887
William Miller	"	2 50 "	D	May 16, 1887
Henry Blum	"	2 50 "	D	August 15, 1887
T. V. Owens	"	2 50 "	D	November 24, 1886
Henry Geck	"	2 60 "	D	August 1, 1887
Bernard Frederick	"	2 50 "	D	June 15, 1890
G. B Hughes	"	2 50 "	D	June 17, 1890
W E Lutzens	"	2 50 "	D	October 12, 1888
C. H. Morey	"	2 50 "	D	January 5, 1889
J. J. Allen	"	2 50 "	D	November 29, 1889
	EXECUTIVE DEPARTMENT.			
Roswell P Flower	Governor	10,000 00	Exempt	January 1, 1892
William F. Sheehan	Lieutenant-Governor	5,000 00	"	January 1, 1892
Timothy S. Williams	Private secretary	4,000 00	"	January 1, 1892
Edmund L. Judson	Military secretary			
Thomas Newcomb	Appointment clerk			
John T. Joyce	Pardon clerk			
F. D. Sherman	Clerk			
M. L. York	Stenographer			
Lyman S Gibbs	Assistant stenographer			
William J O' Connor	Messenger			
Wayne Carlisle	Assistant messenger			
William J. Lamborn	Page			
	FACTORY INSPECTOR.			
James Connolly	Inspector	2,000 00	Exempt	May 18, 1886
John Franey	Deputy inspector	1,500 00	A	May 18, 1886
John Jordan	"	1,000 00	A	June 15, 1887
George A. McKay	"	1,000 00	A	June 15, 1887
Hiram Blanchard	"	1,000 00	A	June 15, 1887
James P. Hooley	"	1,000 00	A	June 15, 1887
Johnson Beers	"	1,000 00	A	June 15, 1887
Francis U. Coe	"	1,000 00	A	June 15, 1887
Leonard Drake	"	1,000 00	A	November 9, 1891
Dennis C. Sullivan	"	1,200 00	A	October 1, 1892
Bertha L. Aschoff	"	1,000 00	A	July 1, 1890
Margaret Finn	"	1,000 00	A	July 1, 1890

Eliza A. Carroll	"	1,000 00	A	July	1, 1890
E. R. Lockwood	"	1,000 00	A	July	1, 1890
Sophie Rauch	"	1,000 00	A	December	14, 1891
Louise Cuthell	"	1,000 00	A	December	29, 1891
Mary Donnelly	"	1,200 00	A	November	1, 1892
Kate Hall	"	1,200 00	A	November	16, 1892
Harriet Hamlin	Private secretary	900 00	C	January	25, 1892
John J. White	Clerk	900 09	B	June	15, 1892
Ambrose J. O'Neill	Typewriter	720 00	B	September	1, 1890
Jessie Sweeney	"	480 00	B	May	1, 1892

FISHERIES COMMISSION.

David G. Hackney	Commissioner		Exempt	May	5, 1892
William H. Bowman	"		Exempt	May	5, 1892
Lawrence D. Huntington	"		Exempt	May	5, 1892
A. Sylvester Joline	"		Exempt	May	5, 1892
Robert Hamilton	"		Exempt	May	5, 1892
Edward P. Doyle	Clerk and engineer	2,000 00	A		1887
J. W. Pond	Chief protector	2,000 00	A	May	10, 1892
Robert Brown, Jr.	" "	500 00	A	September	4, 1888
Willet Kidel	" "	500 00	A	July	6, 1888
Matthew Kennedy	" "	500 00	A	July	6, 1888
P. R. Leonard	" "	500 00	A	July	6, 1888
George Moyer	" "	500 00	A	July	6, 1888
Thomas Bradley	" "	500 00	A	July	6, 1888
Henry C. Carr	" "	500 00	A	July	6, 1888
John Sheridan	" "	500 00	A	July	6, 1888
G. M. Schwartz	" "	500 00	A	July	6. 1888
Daniel Staring	" "	500 00	A	June	10, 1889
Charles Ripson	" "	500 00	A	June	10, 1889
Sherman F. Snyder	" "	500 00	A	May	1, 1888
Isaac Kenwell	" "	500 00	A	May	1, 1890
John Liberty	Clerk to chief protector	800 00	B	June	10, 1889
Monroe A. Greene	Superintendent Caledonia hatchery	1,680 00	A		1888
Fred. Mather	Superintendent Cold Spring Harbor hatchery	1,680 00	A		1885
E. F. Boehm	Superintendent Sacandaga hatchery	1,080 00	A		1889
John Roberts	Superintendent Adirondack hatchery	1,080 00	A		1890
E. L. Marks	Superintendent Fulton Chain hatchery	1,080 00	A		1886
J. W. Mersereau	Oyster protector	1,000 00	A		1886

FOREST COMMISSION.

Townsend Cox	Commissioner	None	Exempt	February	11, 1886
Theodore B. Basselin	"	None	Exempt	May	15, 1885
Dudley Farlin	"	None	Exempt	June	3, 1891
Charles O. McCreedy	Secretary	$2,500 00	A	June	8, 1891
Wallace C. Brooks	Assistant secretary	1,500 00	A	November	30, 1892
William F. Fox	Warden	2,500 00	D	June	8, 1891

ROSTER OF STATE EMPLOYES, ETC. — FOREST COMMISSION — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Philip L. Haberstro	Assistant warden	$2,000 00	E	June 8, 1891
John H. Burke	Inspector	1,500 00	E	March 1, 1889
William Doyle	"	1,500 00	E	November 30, 1892
Josephine J. Fourqurean	Stenographer	900 00	B	July 9, 1888
Edward H. Rickard	Messenger	600 00	B	September 1, 1891
Frank C. Parker	Forester	480 00	D	June 10, 1886
Scudder Todd	"	480 00	D	February 16, 1888
Thomas Powers	"	480 00	D	March 15, 1889
J. H. Risley	"	480 00	D	March 15, 1890
Edward H. Buel	"	480 00	D	June 26, 1891
Fred. Billingham	"	480 00	D	June 26, 1891
William Humes	"	480 00	D	June 26, 1891
T. M. Somerville	"	480 00	D	August 11, 1892
B. J. Mullen	"	480 00	D	August 11, 1892
Henry Bradley	"	480 00	D	February 11, 1892
H. S. Eckler	"	480 00	D	September 29, 1892

HEALTH OFFICER, PORT OF NEW YORK.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
William T. Jenkins, M. D	Health officer		Exempt	February 1, 1892
E. C. Skinner, M. D	Deputy health officer	2,700 00	A	January 8, 1890
A. T. Tallmadge, M. D	" " "	2,700 00	A	February 17, 1892
William Sequine	Clerk	960 00	B	May 8, 1876
Edward Finnerty	Captain of boat	1,200 00	B	March 1, 1892
Edward Crawford	Boatman	600 00	D	May 2, 1882
Thomas Considine	"	600 00	D	March 1, 1892
Alexander Young	"	600 00	D	March 15, 1792
John Sullivan	Deckhand	600 00	D	February 14, 1892
Daniel Dean	Watchman	600 00	D	April 11, 1888
James O'Rourke	Shipkeeper	720 00	B	June 1, 1885
Charles Mest	Engineer	1,080 00	B	March 1, 1892
John Elzer	Fireman	600 00	D	February 1, 1890
James Burns	"	600 00	D	April 1, 1892
Morris Doyle	Messenger	480 00	B	March 1, 1892

HOSPITAL, STATE, BINGHAMTON.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Charles G. Wagner, M. D	Superintendent	3,500 00	B	February 8, 1892
Charles C. Eastman, M. D	First assistant physician	1,800 00	B	October 24, 1881
John F. Fitzgerald, M. D	Second assistant physician	1,400 00	B	October 1, 1886

Arthur M. Collier, M. D.	Third assistant physian	1,200 00	B	October	1, 1891
William A. White, M. D	Fourth assistant physsican	900 00	B	April	27, 1892
Louis W. Dodson, M. D.	Fifth assistant physician	900 00	B	October	24, 1892
E. G. Crum, M. D.	Female physician	1,200 00	B	October	1, 1890
Edwin Evans	Steward	1,400 00	C	July	1, 1880
Mrs. Lavina S. Smith	Matron	500 00	C	November	1, 1881
Jerome De Witt	Treasurer	1,000 00	A		
Edwin M. Reed	Druggist	480 00	B	May	27, 1887
Jennie Wilbur	Stenographer	360 00	B	May	28, 1890
Daniel P. Foster	Clerk	300 00	B	December	15, 1892
Julius Ruick	Tailor	600 00	D	November	28, 1892
Charles McFarland	Storekeeper	480 00	D	February	19, 1882
Ann Ryan	Matron's clerk	216 00	D	June	6, 1887
Ada Chambers	Issuing clerk	200 00	D	September	3, 1884
Lizzie Stowe	Assistant issuing clerk	144 00	D	August	1, 1887
Richard Altridge	Barber	540 00	D	March	26, 1882
Samuel Collins	Engineer	900 00	D	July	1, 1880
Charles Pake	"	420 00	D	November	1, 1881
John Eastman	"	600 00	D	May	21, 1889
M Whittaker	Fireman	600 00	D	October	21, 1880
Eugene Bogart	"	360 00	D	September	7, 1887
John Nolan	"	360 00	D	November	19, 1883
J. M. Cummings	"	360 00	D	August	16, 1886
Homer Bennett	"	600 00	D	March	26, 1889
Graham Slack	Plumber	540 00	D	July	14, 1884
A. L. Fitzpatrick	"	300 00	D	April	11, 1887
William Ira	Blacksmith	600 00	D	September	4, 1874
James Goughey	Shoemaker	480 00	D	April	6, 1886
James Carroll	Baker	780 00	D	January	20, 1885
James Howard	"	360 00	D	May	17, 1888
Theodore Downing	Laundryman	456 00	D	April	1, 1891
John Sherer	Messenger	150 00	D	May	30, 1892
Bridget Moore	Head cook	360 00	D	April	12, 1881
David Vandervoost	" "	360 00	D	March	30, 1885
Mrs. C. Rockwell	" "	360 00	D	April	17, 1885
Mary Holmes	Supervisor	180 00	D	March	27, 1886
Melvin Pettingill	"	420 00	D	November	9, 1881
Mrs. Melvin Pettingill	"	240 00	D	February	25, 1882
Mrs. Eliza Essenwein	"	240 00	D	December	1, 1889
James Crawford	Watchman	500 00	D	July	1, 1880
A. J. Van Dyke	"	360 00	D	February	4, 1886
Alexander Crawford	"	300 00	D	May	18, 1886
Mrs. A. J. Van Dyke	"	240 00	D	August	22, 1884
Mrs. McNierney	"	240 00	D	September	24, 1882
A. E. Follett	"	300 00	D	September	6, 1887
Mrs. Della Hardendorf	"	240 00	D	February	7, 1888
Emma Lounsbury	"	240 00	D	October	16, 1888
Chas. Stanton	"	240 00	D	June	3, 1889
Maggie Grubb	"	240 00	D	December	14, 1888
Kittie Stanley	"	240 00	D	January	1, 1889

ROSTER OF STATE EMPLOYES, ETC.—HOSPITAL, STATE, BINGHAMTON—(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
John Speir	Watchman	$420 00	D	September 24, 1889
Jennie Bangs	"	240 00	D	February 3, 1891
Grace Davern	Head attendant	192 00	D	March 13. 1886
Mrs. Ella Ayres	" "	192 00	D	September 22, 1887
Nellie Quinn	" "	192 00	D	February 10, 1888
M. C. Bartle	" "	192 00	D	February 20, 1888
Lizzie Ferguson	" "	204 00	D	November 22, 1888
Mary Holmes	" "	240 00	D	December 30, 1888
Mrs. Carrie Catlin	" "	240 00	D	April 4, 1886
Smith Catlin	" "	420 00	D	March 23, 1886
Ella McLean	" "	192 00	D	May 3, 1889
Isabel Dunham	" "	240 00	D	May 23, 1889
Mrs L. Sinclair	" "	192 00	D	October 1, 1889
John Coon	" "	300 00	D	November 5, 1889
Mary Bailey	" "	192 00	D	January 10, 1890
Chas. Baker	" "	360 00	D	March 21, 1890
Mrs. B. Roe	" "	192 00	D	April 9, 1890
Lizzie Streeney	" "	204 00	D	May 28, 1890
Jacob Tanner	" "	300 00	D	July 25, 1890
Gordon Probasco	" "	300 00	D	August 18, 1890
Wellington Martz	" "	260 00	D	October 29, 1890
Carlton Rockwell	" "	275 00	D	November 17, 1890
Cassie Fulmer	" "	240 00	D	March 18, 1891
Amy Barlow	" "	204 00	D	June 3, 1891
Nellie Fitzgerald	" "	175 00	D	August 17, 1891
Lizzie Williams	" "	175 00	D	September 17, 1891
Iantha Sloop	" "	175 00	D	October 9, 1891
Lizzie McFarland	Attendant	192 00	D	December 24, 1885
George Stanford	"	240 00	D	February 22, 1887
Edward Hanefin	"	264 00	D	September 30, 1885
Guy Smith	"	240 00	D	April 7, 1887
Edward Gay	"	240 00	D	March 14. 1887
James Foley	"	300 00	D	January 26, 1885
John Quinn	"	264 00	D	June 15, 1885
Frank Thomas	"	240 00	D	November 6, 1886
John Shay	"	240 00	D	April 8, 1887
Perry Beckwith	"	180 00	D	September 13, 1887
Floyd Rosenkrans	"	300 00	D	August 3, 1885
Patrick Neville	"	240 00	D	May 14, 1887
Johanna Dunn	"	192 00	D	May 15. 1885
Nellie Dunn	"	192 00	D	June 24, 1887
Olive Cole	"	144 00	D	June 7, 1887

Clara Torpey	"		144 00	D	March 15, 1887
Etta Furman	"		216 00	D	March 10, 1884
Mary Rosenkrans	"		180 00	D	May 5, 1885
Sarah Stewart	"		156 00	D	April 26, 1887
Mrs. Wilbur	"		120 00	D	February 28, 1888
Kitty Quinn	"		120 00	D	March 10, 1888
George Lewis	"		168 00	D	February 22, 1888
Lida Barry	"		120 00	D	February 25, 1888
Lena Raymond	"		144 00	D	November 10, 1887
Nellie Stanley	"		144 00	D	November 15, 1887
Thos. Sheahan	"		144 00	D	November 2[illegible], 1887
Etta Cole	"		144 00	D	December 19, 1887
Mrs. Mary Hall	"		120 00	D	April 3, 1888
Louis Smith	"		168 00	D	April 19, 1888
DeForest Johnson	"		168 00	D	April 26, 1888
Asa Rogers	"		216 00	D	May 4, 1888
Mabel Hacker	"		120 00	D	May 8, 1888
Benj. Butler	"		168 00	D	June 5, 1888
Edward Buckley	"		168 00	D	June 27, 1888
Ezra Crippen	"		168 00	D	July 2, 1888
James Crane	"		168 00	D	July 2, 1888
Flora Baker	"		120 00	D	July 10, 1888
Rosa Dewitt	"		120 00	D	July 24, 1888
Arthur Mix	"		168 00	D	August 31, 1888
Bert Nelson	"		168 00	D	September 28, 1888
Wm. Bates	"		180 00	D	September 28, 1888
Wm Geer	"		216 00	D	September 30, 1888
Emogene Thompson	"		144 00	D	November 1, 1888
Cora Spearbeck	"		120 00	D	December 4, 1888
Lottie Whittemore	"		120 00	D	December 22, 1888
Moore Bird	"		192 00	D	February 18, 1889
Bert Roe	"		144 00	D	April 5, 1889
Winifred Briggs	"		144 00	D	April 20, 1889
Matie Ellis	"		180 00	D	April 22 1889
Ida Ellis	"		144 00	D	April 22, 1889
Jane Duff	"		144 00	D	May 21, 1889
George Barney	"		180 00	D	June 7, 1889
Thos. Crehan	"		180 00	D	June 10, 1889
George French	"		180 00	D	June 10, 1889
Elsie Wright	"		144 00	D	August 1, 1889
Eugene Potter	"		168 00	D	August 15, 1889
Marvin Noonan	"		240 00	D	September 23, 1889
David Brown	"		216 00	D	October 17, 1889
Sarah Buck	"		120 00	D	November 6, 1889
W. J. Rockafeller	"		168 00	D	December 3, 1889
A T. Rosenkrans	"		168 00	D	December 3, 1889
John Fulner	"		168 00	D	March 26, 1890
Frank Hannefin	"		168 00	D	April 22, 1890
Mrs. Mary Lindsey	"		144 00	D	May 1, 1890
Sallie Freeze	"		240 00	D	May 30, 1890

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, BINGHAMTON —(*Continued.*)

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service	
Ida Sloop	Attendant	$192 00	D	May	27, 1890
Thos. Sullivan	"	168 00	D	June	8, 1890
Eugene Lowe	"	168 00	D	June	10, 1890
Samuel McCormic	"	168 00	D	June	16, 1890
Kate Maloney	"	120 00	D	July	17, 1890
Wm. White	"	264 00	D	July	22, 1890
Myrtie Smith	"	120 00	D	August	11, 1890
Emma Covert	"	120 00	D	August	28, 1890
Louise Decker	"	120 00	D	September	9, 1890
David Sullivan	"	168 00	D	September	26, 1890
Henry Boyd	"	168 00	D	October	25, 1890
Harry Berdine	"	168 00	D	November	1, 1890
Eugene Loveland	"	168 00	D	December	1, 1890
Horace Lounsberry	"	168 00	D	December	8, 1890
Rosa Carl	"	120 00	D	December	18, 1890
Howard Carl	"	168 00	D	December	18, 1890
Maggie Shay	"	120 00	D	December	20, 1890
James Flynn	"	264 00	D	November	17, 1890
Rosa Rosenkrans	"	168 00	D	December	8, 1890
Frank Dennis	"	168 00	D	January	1, 1891
Maggie Waterman	"	120 00	D	January	5, 1891
Maud Rounds	"	120 00	D	January	14, 1891
Rachel Wiswell	"	120 00	D	January	20, 1891
William Heart	"	168 00	D	January	24, 1891
Hiram Rockwell	"	168 00	D	January	26 1891
Charles Bell	"	168 00	D	January	27, 1891
Anna Quilty	"	120 00	D	February	6, 1891
Daniel Foley	"	168 00	D	March	2, 1891
Z. G. Shoemaker	"	168 00	D	March	15, 1891
Clara Gelvin	"	240 00	D	March	18, 1891
Van Ness Sherwood	"	168 00	D	March	25, 1891
Harry Ferriss	"	168 00	D	April	29, 1891
Theresa Stomfast	"	120 00	D	May	5, 1891
Mamie Hefferan	"	120 00	D	May	27, 1891
John O'Connor	"	168 00	D	May	28, 1891
Angie Brinck	"	120 00	D	June	4, 1891
Anna Shiff	"	120 00	D	July	4, 1891
Rosa Franklin	"	144 00	D	July	14, 1891
Nettie Stanton	"	120 00	D	July	28, 1891
Minnie Harford	"	120 00	D	July	30, 1891
May Murphy	"	120 00	D	August	17, 1891
George Waterman	"	168 00	D	August	17, 1891

Maggie Long	"		144 00	D	August	28, 1891
Mrs. Ida Potter	"		180 00	D	August	31, 1891
Edward Mineemoyer	"		216 00	D	September	2, 1891
Mary Magee	"		120 00	D	September	15, 1891
Daniel Ring	"		168 00	D	September	15, 1891
Dora Finn	"		132 00	D	September	25, 1891
Marguerite Maurer	"		120 00	D	October	1, 1891
Viola Dennis	"		120 00	D	October	2, 1891
Egbert Boyce	"		168 00	D	October	7, 1891
Frank Evans	"		180 00	D	December	8, 1891
Alice Everett	"		120 00	D	December	23, 1891
Kate Wood	"		156 00	D	January	4, 1892
Cora Rockwell	"		120 00	D	January	7, 1892
Arthur Smith	"		168 00	D	January	16, 1892
Frances Torpey	"		120 00	D	January	20, 1892
Clara Stanton	"		120 00	D	January	12, 1892
Rosa Spengler	"		120 00	D	January	18, 1892
Aphelia Tompson	"		120 00	D	January	23, 1892
Julia Freeman	"		120 00	D	January	23, 1892
De Forest Crosier	"		168 00	D	April	9, 1892
H. S. Griffis	"		168 00	D	April	10, 1892
Eloise Hoyt	"		120 00	D	April	11, 1892
William Van Tassel	"		168 00	D	April	14, 1892
Ada Freeman	"		120 00	D	April	15, 1892
Martin Osborn	"		168 00	D	April	16, 1892
Lizzie Richards	"		144 00	D	April	16, 1892
Erastus Wolcott	"		168 00	D	April	19, 1892
Sidney Dunbar	"		120 00	D	May	2, 1892
Millie Ford	"		120 00	D	May	5, 1892
Maud Moore	"		120 00	D	May	5, 1892
Della Rounds	"		120 00	D	May	9, 1892
Frank Quilty	"		168 00	D	May	17, 1892
Lena Ryan	"		120 00	D	May	23, 1892
Jacob Rogers	"		168 00	D	May	25, 1892
Miller McHenry	"		168 00	D	June	1, 1892
Mamie Bastido	"		144 00	D	June	7, 1892
Vernon Brink	"		192 00	D	June	15, 1892
Ella Kimball	"		144 00	D	June	17, 1892
Michael Foley	"		192 00	D	June	17, 1892
Bertha Ferguson	"		144 00	D	June	20, 1892
Orris Osborn	"		192 00	D	June	20, 1892
William Vandevort	"		192 00	D	June	28, 1892
Kate Crowley	"		168 00	D	June	29, 1892
Frank Banning	"		192 00	D	July	1, 1892
Emily Wiswell	"		144 00	D	July	5, 1892
William Clair	"		192 00	D	July	5, 1892
George Cowles	"		192 00	D	July	6, 1892
Thomas Murphy	"		192 00	D	July	7, 1892
Susan Warren	"		144 00	D	July	11, 1892
Phoebe Elliot	"		144 00	D	July	11, 1892

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, BINGHAMTON — (*Continued*).

NAME	Title of position.	Salary.	Schedule.	Date of entrance into service.
John Rittenhouse	Attendant	$192 00	D	July 12, 1892
Irene Sloop	"	144 00	D	July 23, 1892
Lizzie Stanton	"	144 00	D	July 27, 1892
Annie Powers	"	144 00	D	July 28, 1892
Minnie Swan	"	144 00	D	July 29, 1892
Cora Moses	"	144 00	D	July 30, 1892
Jessie Ashworth	"	144 00	D	August 18, 1892
Nora Fassett	"	144 00	D	August 24, 1892
Nathan Glazier	"	192 00	D	August 25, 1892
Matie Waite	"	144 00	D	August 28, 1892
Ida Gibson	"	144 00	D	September 1, 1892
Gertrude Gibson	"	144 00	D	September 1, 1892
Thomas Hanley	"	192 00	D	September 2, 1892
Mamie Williams	"	144 00	D	September 6, 1892
Anna Sellers	"	144 00	D	September 7, 1892
Rose Gere	"	144 00	D	September 14, 1892
Reese Clark	"	192 00	D	September 14. 1892
Edwin Verveau	"	192 00	D	September 17, 1892
Bronice Riley	"	192 00	D	September 19, 1892
Judson Brown	"	192 00	D	September 22, 1892
Minnie Tremain	"	144 00	D	September 22, 1892
Frank Gibson	"	192 00	D	September 24, 1892
Helen Pollay	"	144 00	D	September 24, 1892
Adelbert Dunning	"	192 00	D	September 27, 1892
Charles McCabe	"	192 00	D	September 28, 1892
Edgar Dressler	"	192 00	D	October 7, 1892
Charles Pierson	"	192 00	D	October 11, 1892
Nora Dowd	"	144 00	D	October 11, 1892
Emma Jaycox	"	144 00	D	October 20, 1892
Clarence Moore	"	192 00	D	October 23, 1892
Walter Emerson	"	192 00	D	October 24, 1892
John Gailor	"	192 00	D	October 26, 1892
Frank Leonard	"	192 00	D	November 1, 1892
James Shallon	"	192 00	D	November 1, 1892
Frank Mills	"	192 00	D	November 4, 1892
Anabel Thomas	"	144 00	D	November 11, 1892
Philip Hogan	"	192 00	D	November 18, 1892
Edna DeGraw	"	144 00	D	December 7, 1892
Lizzie Nagle	"	144 00	D	December 9, 1892
Nellie Nagle	"	144 00	D	December 9, 1892
Adelaide Olney	"	144 00	D	December 15, 1892
Herman Tailor	"	192 00	D	December 27, 1892

HOSPITAL, STATE, BUFFALO.

Judson B. Andrews, M. D	Superintendent	4,000 00	B	November	15, 1880
Arthur W. Hurd, M. D.	First Assistant Physician	2,000 00	B	February	1, 1889
Herman Matzinger, M. D	Second Assistant Physician	1,600 00	B	February	1, 1889
Percy Bryant, M. D	Third Assistant Physician	1,000 00	B	February	1, 1889
Helen J. C. Kuhlmann, M. D	Female Physician	1,200 00	B	November	21, 1892
Elisa S. Hawley	Treasurer	1,200 00	A	October	1, 1885
	Chaplain	500 00	A	April	1, 1882
Thomas Wilding	Steward	1,000 00	C	November	10, 1891
Flora A. Seeley	Matron	500 00	C	November	10, 1891
John Rattenden	Organist	900 00	B	January	1, 1884
Anna G. Clark	Stenographer	600 00	B	July	25, 1891
Frederick N. Hutchins	Apothecary	720 00	B	April	1, 1889
Harry A Wood	Medical Cadet	480 00	C	August	1, 1886
Martin McDonough	Supervisor	480 00	D	March	8, 1881
Geneva Dibbel	"	164 00	D	September	1. 1891
Maggie Wilson	"	164 00	D	September	1, 1891
Patrick O'Flanigan	Watchman	540 00	D	February	25, 1881
John J. Clifford	"	360 00	D	December	1, 1890
Joseph Griffiths	Engineer	900 00	D	November	15, 1880
William Griffiths	Fireman	540 00	D	December	1, 1885
William Goudy	"	540 00	D	November	15, 1880
John McDonald	Carpenter	900 00	D	November	15, 1880
Thomas Foley	Painter	675 00	D	April	1, 1885
Thomas Sutcliff	Steamfitter	420 00	D	February	21, 1887
Franz Faehr	Gardener	600 00	D	January	1, 1892
Charles Hayden	"	480 00	D	April	23, 1885
John Emninger	Baker	480 00	D	April	1, 1885
George Brown	Cook	480 00	D	November	1, 1885
Philip Boylan	"	300 00	D	May	25, 1886
Mary Dunlop	Head Attendant	216 00	D	February	1, 1889
Alpharetta De Klynn	" "	240 00	D	September	29. 1888
Alexander Fraser	" "	336 00	D	September	16, 1889
Patrick O'Leary	" "	336 00	D	January	1, 1890
Dennis Seymour	" "	336 00	D	February	25, 1890
Thomas Shannon	" "	336 00	D	March	31. 1891
John Hayes	Attendant	312 00	D	April	18, 1885
Thomas Boylan	"	312 00	D	June	29, 1884
Anthony Cofield	"	336 00	D	August	24, 1881
Michael Stahr	"	240 00	D	March	2. 1887
Edward Gabriel	"	300 00	D	July	18, 1883
Henry Winspear	"	264 00	D	October	1. 1886
John Kinne	"	240 00	D	March	14, 1887
Maggie Fleming	"	192 00	D	September	22, 1885
May Lee	"	144 00	D	April	18, 1887
Matthew Rogan	"	180 00	D	September	1, 1887
Charles Frank	"	300 00	D	April	10, 1888
Katherine Martin	"	180 00	D	April	1, 1888
Margaret Michael	"	156 00	D	August	6, 1888

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, BUFFALO —(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Mary Hoffman	Attendant	$156 00	D	October 15, 1888
Ellen Holt	"	156 00	D	December 8, 1888
Esther Hoffman	"	156 00	D	March 11, 1889
Mary Hotaling	"	192 00	D	May 1, 1889
Jane Lloyd	"	240 00	D	July 10, 1889
Joseph Wyatt	"	264 00	D	July 20, 1889
Elizabeth Owen	"	156 00	D	July 23, 1889
Joseph Malcolm	"	264 00	D	January 14, 1890
Walter Leland	"	264 00	D	July 25, 1890
Andrew Edstrom	"	264 00	D	October 1, 1890
Fred. White	"	264 00	D	December 8, 1890
Maggie McDonough	"	168 00	D	January 1, 1891
Henry Gosling	"	264 00	D	February 10, 1891
Jennie Bund	"	156 00	D	April 3, 1891
Mary Sutcliff	"	156 00	D	April 13, 1891
Lillie Blake	"	156 00	D	April 16, 1891
Mary Donahue	"	156 00	D	May 1, 1891
Edna Howland	"	156 00	D	May 16, 1891
Cora Balcom	"	156 00	D	June 1, 1891
Mary Moore	"	156 00	D	June 10, 1891
Alfred Shaw	"	264 00	D	June 4, 1891
Thomas Campbell	"	264 00	D	June 3, 1891
May McQuay	"	156 00	D	September 1, 1891
Elois Harmon	"	156 00	D	September 1, 1891
John Culp	"	264 00	D	September 30, 1891
Wm. Mundy	"	264 00	D	December 19, 1891
Mac. Jones	"	156 00	D	December 19, 1891
Lizzie O'Flanigan	"	156 00	D	January 1, 1892
Mary Cottrill	"	156 00	D	January 4, 1892
George Wheeler	"	312 00	D	January 12, 1892
Wm. Peck	"	336 00	D	February 8, 1892
David Killen	"	264 00	D	March 2, 1892
Frank Wagner	"	264 00	D	April 4, 1892
Willard Tier	"	264 00	D	April 26, 1892
Laura Garden	"	156 00	D	May 1, 1892
Sara Middleton	"	156 00	D	May 4, 1892
George Wyatt	"	264 00	D	May 16, 1892
Frances St. John	"	156 00	D	May 23, 1892
James Kilman	"	264 00	D	May 24, 1892
Rose Freeman	"	156 00	D	June 1, 1892
Wm. Williams	"	264 00	D	June 4, 1892
Hattie Blumenthal	"	156 00	D	June 8, 1892

Lavine Haines	Attendant	156 00	D	June	23, 1892
Clarence Clark	"	264 00	D	July	18, 1892
David Taber	"	276 00	D	August	1, 1892
Lottie Green	"	156 00	D	August	20, 1892
Nettie Johnson	"	156 00	D	August	29, 1892
Joseph Cantillon	"	276 00	D	September	2, 1892
Wm. Mason	"	264 00	D	September	15 1892
Wm. Maloney	"	336 00	D	October	21, 1892

HOSPITAL, STATE HOMŒOPATHIC, MIDDLETOWN.

Selden H. Talcott, M. D	Superintendent	4,500 00	B	April	24, 1877
George Allen, M. D	First assistant physician	3,000 00	B	May	1, 1890
C. Spencer Kinney, M. D	Second " "	2,000 00	B	December	1, 1880
Daniel H. Arthur, M. D	Third " "	900 00	B	May	1, 1887
Maurice C. Ashley, M. D	Fourth " "	900 00	B	September	1. 1892
John Cochran	Steward	2,000 00	C	September	1, 1874
Henry Leonard	Assistant steward	1,041 00	C	September	22, 1879
Uzal F. Hays	Treasurer	900 00	A	September	1, 1875
M. F Mallan	Clerk	732 00	B	October	2, 1889
S. R. Leonard	"	552 00	B	February	4, 1883
Charles Warner	"	492 00	B	September	15, 1885
Wilbur E. Cook	Supervisor	600 00	D	April	1, 1878
Mrs. Wilbur E. Cook	"	540 00	D	October	20, 1877
Miss D. W. Comstock	"	552 00	D	January	5, 1881
William Thurston	Baker	900 00	D	April	9, 1886
Adolph Ritter	"	420 00	D	August	28, 1889
R. E. Jones	Cook	1,100 00	D	June	27, 1887
E. Coddington	Carpenter	600 00	D	September	1, 1878
Thomas J. Morris	Steamfitter	600 00	D	March	6, 1891
D. D. Armoys	Head laundryman	600 00	D	October	15, 1883
C. Terwilliger	Laundryman	530 00	D	November	24, 1884
Wm. Grey	Florist	850 00	D	March	24, 1884
Owen McGuire	Gardener	625 00	D	July	10 1883
E. McCourt	Watchman	600 00	D	August	11, 1877
John Young	"	252 00	D	May	15, 1886
Annie Hines	"	252 00	D	February	1, 1886
Charles Worcester	Engineer	900 00	D	September	8, 1890
Jacob Goodsir	"	300 00	D	October	17, 1889
C. L. Greene	Fireman	540 00	D	August	1, 1889
John Irwin	"	420 00	D	July	13, 1890
Charles Harris	"	420 00	D	September	12, 1890
Patrick Moran	"	480 00	D	March	7, 1891
A. Polhemus	Messenger	180 00	D	October	6, 1886
Wm Gray, Jr.	"	100 00	D	November	5, 1889
Arthur Garrison	Office boy	100 00	D	August	28, 1888
Elmer Garrison	"	100 00	D	February	16, 1890
Hattie Benedict	Office girl	100 00	D	May	24, 1888
Carrie Gordon	"	100 00	D	December	17, 1888

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE HOMŒOPATHIC, MIDDLETOWN — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Ida Vanderlyn	Office girl	$100 00	D	April 7, 1892
C. W Hitchcock	Overseer	384 00	D	May 1, 1884
Olive Carpenter	Head attendant	264 00	D	April 25, 1888
A. C. Parlin	" "	336 00	D	July 26, 1889
James Walker	" "	360 00	D	September 6, 1889
Louise Rattray	" "	300 00	D	August 18, 1889
E H Mapledrum	" "	360 00	D	December 5, 1889
S. H. Sengstarken	" "	384 00	D	August 11, 1890
Chas Wilkin	" "	286 00	D	October 7, 1890
Chas. Brown	" "	300 00	D	April 29, 1892
L. Rourke	Attendant	420 00	D	March 17, 1882
Arthur Kilbride	"	420 00	D	July 23, 1885
Chas. Frear	"	360 00	D	August 4, 1885
John Holmes	"	300 00	D	January 19, 1886
Daniel Sullivan	"	252 00	D	May 2, 1887
Wm Haley	"	216 00	D	August 5, 1887
J. M. Donivan	"	540 00	D	April 1, 1881
Frances Schwab	"	360 00	D	October 1, 1881
Irene Benjamin	"	240 00	D	May 10, 1887
Alice Baker	"	360 00	D	August 19, 1884
Maggie Cann	"	264 00	D	August 5, 1884
Emma Walters	"	324 00	D	September 1, 1884
Annie Nearn	"	360 00	D	December 29, 1884
Jennie Moffatt	"	312 00	D	June 9, 1885
Clara Osborne	"	216 00	D	January 6, 1885
Herman Hewitt	"	240 00	D	October 18, 1887
F. E. Schoonmaker	"	216 00	D	December 23, 1887
M. L. Dunlop	"	396 00	D	October 5, 1887
Lillie Schoonmaker	"	144 00	D	May 15, 1888
Kate McGuire	"	144 00	D	June 13, 1888
Kenneth McKenzie	"	216 00	D	July 23, 1888
Kittie Moffatt	"	144 00	D	July 23, 1888
Kate Canthers	"	144 00	D	August 14, 1888
Alice Tompkins	"	180 00	D	January 8, 1889
Wm Norris	"	180 00	D	January 24, 1889
L. Moran	"	324 00	D	January 29, 1889
Edith Penny	"	156 00	D	March 11, 1889
George Sarine	"	216 00	D	March 23, 1889
Matthew Arkins	"	228 00	D	April 23, 1889
Annie Redding	"	168 00	D	May 9, 1889
K. M. Garrison	"	144 00	D	June 5, 1889
Walter Tripp	"	240 00	D	July 23, 1889

John Campbell	"	216 00	D	September 26, 1889
Jennie Abbott	"	144 00	D	September 25, 1889
Samuel Sease	"	240 00	D	October 28, 1889
W. H. Chardavoyne	"	216 00	D	December 4, 1889
Nellie Devore	"	144 00	D	November 25, 1889
Joseph Gray	"	240 00	D	January 16, 1890
Frank Vansickel	"	216 00	D	February 20, 1890
Chris Geneg l	"	216 00	D	March 3, 1890
James Russell	"	216 00	D	March 11, 1890
Ida Hannahs	"	156 00	D	January 9, 1890
Ida Reed	"	144 00	D	March 15, 1890
Annie Edwards	"	144 00	D	May 5, 1890
W. E. McVeigh	"	216 00	D	May 20, 1890
Kate Waters	"	144 00	D	June 9, 1890
Frances Haley	"	144 00	D	June 28, 1890
John Moshier	"	240 00	D	July 5, 1890
Matie Morrison	"	156 00	D	July 21, 1890
Jessie Young	"	144 00	D	September 3, 1890
Rose Fitzgerald	"	156 00	D	September 23, 1890
William Space	"	216 00	D	October 17, 1890
Sadie Harrison	"	216 00	D	November 7, 1890
Jennie Wilkinson	"	168 00	D	November 11, 1890
Lamont De Ved	"	216 00	D	December 31, 1890
Belle Devore	"	144 00	D	February 20, 1891
Luke Radigan	"	216 00	D	January 7, 1891
Robert Daniels	"	216 00	D	March 4, 1891
Carrie Clearwater	"	144 00	D	March 3, 1891
Edward Ryan	"	216 00	D	March 25, 1891
John Young	"	276 00	D	March 25, 1891
Charles Reynolds	"	216 00	D	March 27, 1891
Edward Butts	"	216 00	D	March 28, 1891
Carrie Gordon	"	120 00	D	March 28, 1891
Frank Chardavoyne	"	228 00	D	April 6, 1891
Thomas Flood	"	228 00	D	April 8, 1891
Kate McShane	"	144 00	D	May 1, 1891
Belle Redfield	"	144 00	D	May 21, 1891
Thomas Jones	"	216 00	D	June 11, 1891
Stanford Brown	"	216 00	D	June 25, 1891
Mary Cleary	"	144 00	D	July 29, 1891
Nellie Parlin	"	144 00	D	August 14, 1891
Aug. Frear	"	216 00	D	September 28, 1891
John Stuart	"	216 00	D	September 29, 1891
James Parshall	"	216 00	D	October 13, 1891
Gertrude Cooper	"	168 00	D	October 15, 1891
Ella Myers	"	144 00	D	November 11, 1891
George Nolan	"	216 00	D	November 16, 1891
S. L. Stevenson	"	264 00	D	November 20, 1891
Charles Bates	"	216 00	D	November 28, 1891
Anne Martin	"	144 00	D	December 7, 1891
Kate Donovan	"	144 00	D	December 9, 1891

ROSTER OF STATE EMPLOYES, ETC. — HOSPITAL, STATE, MIDDLETOWN — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Fred Luison	Attendant	$216 00	D	December 29, 1891
Charles Devoe	"	216 00	D	January 14, 1892
Lester Loder	"	240 00	D	January 23, 1892
Sabina Cleary	"	144 00	D	February 1. 1892
S. Esther Olmstead	"	144 00	D	February 6, 1892
Lewis Bull	"	216 00	D	February 20, 1892
Caroline Sliddens	"	144 00	D	March 2. 1892
Abraham Shoemaker	"	216 00	D	March 5, 1892
Gussie Allison	"	144 00	D	March 5, 1892
Louise Durham	"	144 00	D	March 15. 1892
Adam Shaffer	"	216 00	D	March 23, 1892
Frank Callahan	"	216 00	D	April 2, 1892
Caroline Malley	"	216 00	D	May 2, 1892
George Harcourt	"	216 00	D	May 2, 1892
Fred DeGraw	"	216 00	D	April 16, 1892
Edward Davis	"	216 00	D	April 26, 1892
Edward Newton	"	216 00	D	June 21, 1892
John Mahood	"	216 00	D	July 13, 1892
Clarence Morton	"	216 00	D	July 28. 1892
Frank Hamilton	"	216 00	D	July 29, 1892
Maggie Manning	"	168 00	D	August 10, 1892
Ellie McNamee	"	168 00	D	August 10, 1892
James McShane	"	216 00	D	August 11, 1892
Roosevelt Benton	"	216 00	D	August 13, 1892
Tillie Robshaw	"	168 00	D	August 13, 1892
Margaret Doyle	"	168 00	D	August 15. 1892
Anna Allison	"	144 00	D	August 22. 1892
Sadie Malone	"	168 00	D	August 29, 1892
Kate Mahoney	"	168 00	D	September 1, 1892
Hugh Shaw	"	216 00	D	September 2, 1892
Jennie Wilcox	"	216 00	D	September 13, 1892
Tillie Welpley	"	144 00	D	September 16, 1892
Nellie Smith	"	300 00	D	September 19, 1892
Jas. Smith	"	216 00	D	September 19, 1892
Jane Tripp	"	168 00	D	September 20. 1892
Rosa Murray	"	144 00	D	September 22. 1892
Patrick Barrett	"	216 00	D	September 27, 1892
Helen Avery	"	144 00	D	October 1, 1892
Emma King	"	144 00	D	October 6, 1892
Charles St. John	"	216 00	D	October 8, 1892
Samuel English	"	216 00	D	October 8, 1892
Alexander Mabee	"	216 00	D	October 8. 1892

Kate Edwards	''	144 00	D	October 8, 1892
Rose Foster	''	144 00	D	October 10, 1892
Joseph Harrison	''	216 00	D	October 13, 1892
Agnes Hickey	''	144 00	D	October 22, 1892
Thomas Wilson	''	216 00	D	October 25, 1892
Hattie Layton	''	144 00	D	October 25, 1892
Charles Farmer	''	216 00	D	October 26, 1892
Lizzie Hoyt	''	144 00	D	November 4, 1892
James Hornbeck	''	216 00	D	November 10, 1892
James Purcell	''	216 00	D	November 14, 1892
Tillevan Terwilliger	''	216 00	D	November 14, 1892
Charles Brome	''	360 00	D	November 16, 1892
Julia Farmer	''	144 00	D	November 21, 1892
Mary Fowler	''	144 00	D	November 28, 1892
Ida Castle	''	216 00	D	November 28, 1892
John Moran	''	216 00	D	December 1, 1892
Mary Ahern	''	144 00	D	December 7, 1892
Joseph Hughes	''	216 00	D	December 13, 1892
William Shambler	''	216 00	D	December 14, 1892
Joseph Semple	''	216 00	D	December 15, 1892
Margaret Semple	''	144 00	D	December 15, 1892
Wm. Hemmingway	''	216 00	D	December 23, 1892

HOSPITAL, ST. LAWRENCE STATE, OGDENSBURG.

P. M. Wise, M. D.	Superintendent	5,000 00	B	February 1, 1890
Jesse M. Mosher, M. D.	First Assistant Physician	1,800 00	B	October 1, 1890
Robert G. Cook, M. D.	Second Assistant Physician	1,500 00	B	April 25, 1891
J. A. Barnette, M. D.	Third Assistant Physician	1,200 00	B	November 14, 1890
Richard H. Hutchings, M. D.	Fourth Assistant Physician	1,000 00	B	October 1, 1892
Caroline L. Bristol, M. D.	Female Physician	1,200 00	B	April 27, 1891
Wm. J. Averell	Treasurer	None	A	
Wm. C. Hall	Stewart	$1,200 00	C	November 15, 1890
Wm. J. Mea	Apothecary	480 00	B	November 3, 1891
Thomas Dinneen	Clerk and Bookkeeper	500 00	B	September 3, 1892
Lucy E. Miller	Clerk and Stenographer	360 00	B	January 22, 1891
Andrew H. Dalzell	Engineer	480 00	D	December 20, 1890
Alexander Creighton	Fireman	360 00	D	December 1, 1890
Henry Ayres	''	260 00	D	December 1, 1890
John Moroney	''	360 00	D	December 22, 1890
Henry Karr	''	300 00	D	March 1, 1891
Timothy McBride	''	540 00	D	May 25 1891
John Dugrette	''	360 00	D	November 9, 1892
Alfred Burdo	''	360 00	D	November 19, 1892
John Murphy	''	360 00	D	November 22, 1892
Pierce Dalzell	''	360 00	D	October 4, 1892
Peter Bonin	Baker	420 00	D	December 6, 1890
E. M. Stanton	Pipefitter	600 00	D	September 24, 1891
Frank Woodbury	Laundryman	600 00	D	September 21, 1891

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, ST. LAWRENCE STATE, OGDENSBURG — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
John McGoey	Supervisor	$360 00	D	January 1, 1891
Charles Lockwood	"	360 00	D	September 1, 1891
Amelia ockwood	"	240 00	D	September 1, 1891
Samuel Crabb	"	480 00	D	November 10, 1892
John Beust	Head Attendant	300 00	D	August 4, 1891
Annie Jestley	" "	216 00	D	August 19, 1891
T. J. Williams	" "	300 00	D	June 1, 1892
Albert Randall	Attendant	240 00	D	December 1, 1890
John McKittrick	"	300 00	D	December 1, 1890
Alexander Gebo	"	240 00	D	December 1, 1890
Josephine Harris	"	192 00	D	December 1, 1890
Augusta Hyatt	"	168 00	D	December 1, 1890
Annie Gebo	"	168 00	D	December 1, 1890
Anna Corrigan	"	168 00	D	December 15, 1890
Roy Castle	"	240 00	D	February 20, 1891
Frank Newton	"	216 00	D	February 23, 1891
Ida Green	"	168 00	D	January 19, 1891
Harriet Graves	"	144 00	D	February 9, 1891
John Barton	"	300 00	D	March 1, 1891
Margaret Tracy	"	144 00	D	March 10, 1891
William Osborne	"	240 00	D	January 3, 1891
Frederick Kelly	"	216 00	D	April 6, 1891
Tina Elliott	"	144 00	D	April 14, 1891
Frank Gilbert	"	240 00	D	May 7, 1891
Elizabeth Gilbert	"	168 00	D	May 7, 1891
James Dunne	"	216 00	D	May 12, 1891
Celia Moran	"	144 00	D	April 1, 1891
John Mullen	"	216 00	D	June 22, 1891
Elizabeth Cosgrove	"	144 00	D	June 22, 1891
Mary Cosgrove	"	144 00	D	July 15, 1891
Acay Johnson	"	216 00	D	July 1, 1891
Ida Beust	"	168 00	D	August 4, 1891
Clarence Reynolds	"	216 00	D	July 23, 1891
Maria Reynolds	"	144 00	D	August 19, 1891
Margaret Dennis	"	144 00	D	August 19, 1891
Rose Borgman	"	144 00	D	September 2, 1891
Myron Fulton	"	240 00	D	September 4, 1891
Donald McDonald	"	240 00	D	September 4, 1891
Carrie Burlingame	"	144 00	D	September 5, 1891
Earl Thomas	"	240 00	D	September 15, 1891
John Walker	"	240 00	D	September 28, 1891
Clarence McHugh	"	240 00	D	September 21, 1891

Margaret Hogan	"		144 00	D	September 30, 1891
Lizzie Hogan	"		144 00	D	September 30, 1891
James Forbes	"		240 00	D	September 1, 1891
Mary Haig	"		144 00	D	September 1, 1891
Annie McDonald	"		168 00	D	October 3, 1891
Madge McDonald	"		168 00	D	October 3, 1891
George Midgely	"		240 00	D	October 12, 1891
Mary Walters	"		168 00	D	October 24, 1891
Daniel Leahy	"		240 00	D	November 3, 1891
Marvin Gillespie	"		168 00	D	January 6, 1892
Walter Winter	"		240 00	D	February 9, 1892
Isabel Gahan	"		144 00	D	February 19, 1892
Delia O'Neill	"		144 00	D	March 25, 1892
Herbert McEwen	"		216 00	D	April 4, 1892
Walter Tracey	"		240 00	D	April 4, 1892
Fred Myers	"		216 00	D	April 5, 1892
J. F. Connelly	"		216 00	D	April 5, 1892
Archie White	"		216 00	D	April 5, 1892
Edward Radley	"		240 00	D	April 20, 1892
Mary Lambert	"		144 00	D	April 23, 1892
Mary Dennis	"		144 00	D	April 27, 1892
Herbert Brown	"		240 00	D	April 27, 1892
George Whipple	"		216 00	D	April 27, 1892
John Curbeau	"		216 00	D	May , 1892
George Dove	"		216 00	D	May 2, 1892
William Dawley	"		240 00	D	May 2, 1892
Mary Burke	"		144 00	D	May 3, 1892
Martin Paulson	"		216 00	D	May 4, 1892
Henry Randall	"		216 00	D	May 5, 1892
G. D. Puffer	"		216 00	D	May 10, 1892
Rose McGilvray	"		144 00	D	May 12, 1892
Charles Locke	"		216 00	D	May 14, 1892
Agnes Puffer	"		144 00	D	June 10, 1892
Mabel Burlingame	"		144 00	D	June 24, 1892
Carrie Edmonds	"		144 00	D	July 5, 1892
Lolie Slaght	"		168 00	D	July 7, 1892
Michael Carlin	"		216 00	D	July 10, 1892
Agnes Warren	"		144 00	D	July 15, 1892
Emma Pierce	"		144 00	D	July 15, 1892
Charles Early	"		216 00	D	July 17, 1892
Charles Kinne	"		240 00	D	July 29, 1892
Mary Speer	"		144 00	D	August 11, 1892
Almy Kern	"		216 00	D	August 11, 1892
Thomas Pattison	"		216 00	D	August 23, 1892
Emma Hogan	"		144 00	D	August 27, 1892
Orris Hill	"		216 00	D	August 20, 1892
Frank Schell	"		216 00	D	August 31, 1892
James Orr	"		216 00	D	August 31, 1892
Carrie Gallinger	"		144 00	D	September 2, 1892
Charles Webster	"		240 00	D	September 9, 1892

ROSTER OF STATE EMPLOYES, ETC. — HOSPITAL, ST. LAWRENCE STATE, OGDENSBURG — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Nettie Howell	Attendant	$144 00	D	September 12, 1892
William Uran	"	240 00	D	September 15, 1892
Catherine Purcell	"	144 00	D	August 5, 1892
Homer Furness	"	216 00	D	August 15, 1892
William Hegarty	"	168 00	D	September 27, 1892
William Thompson	"	240 00	D	October 3, 1892
George Mullin	"	216 00	D	October 3, 1892
Alice Halpin	"	144 00	D	October 10, 1892
Orville Bishop	"	216 00	D	October 10, 1892
William Berkley	"	216 00	D	October 10, 1892
Huldah McGilvray	"	144 00	D	October 12, 1892
Elmer Burke	"	144 00	D	November 1, 1892
Minnie Belding	"	144 00	D	November 9, 1892
Mary Volans	"	144 00	D	November 15, 1892
De Witt Castle	"	216 00	D	December 6, 1892
Grace Castle	"	144 00	D	December 6, 1892
Jennie Chambers	"	144 00	D	December 12, 1892
Kate Fitzgerald	"	144 00	D	December 12, 1892
John McElkron	"	240 00	D	December 15, 1892
Altemia Seth	"	144 00	D	December 27, 1892
Sheridan Baker	Night watch	300 00	D	January 5, 1891

HOSPITAL, HUDSON RIVER STATE, POUGHKEEPSIE.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Joseph M. Cleaveland, M. D.	Superintendent	$4,500 00	B	March 28, 1867
Selwyn A. Russell, M. D	First assistant physician	3,000 00	B	July 11, 1891
Chas. H. Langdon, M. D	Second assistant physician	1,500 00	B	April 1, 1882
Ralph W. Parsons, M. D	Third assistant physician	1,000 00	B	July 17, 1890
Isham G. Harris, M. D	Fourth assistant physician	1,000 00	B	November 9, 1891
Caroline S. Pease, M. D	Female physician	1,200 00	B	November 10, 1890
D. Porter Lord	Steward	1,500 00	C	December 2, 1885
Allison Butts	Treasurer	1,000 00	A	....
Mary E. Gordon	Matron	1,000 00	C	September 6, 1888
C. J. Vandemark	Teacher	900 00	B	January 25, 1886
Howard E. Hoag	Apothecary	480 00	B	September 14, 1891
Josephine Van Wagnen	Stenographer	480 00	B	January 2, 1889
Louis J. Cobey	Electrician	840 00	C	February 1, 1891
Martin Crawford	Engineer	1,020 00	D	March 3, 1884
Walter Mynott	"	900 00	D	August 1, 1889
Henry Clifford	"	720 00	D	February 1, 1892
Martin De Laney	Fireman	720 00	D	February 16, 1889

Florence McAuliff	“	720 00	D	October	1, 1867
James Smith	“	720 00	D	August	20, 1890
Frank Klumpp	Cook	600 00	D	March	28, 1885
Leopold Glasstetter	“	600 00	D	September	9, 1889
Mary Johnson	Watchman	204 00	D	September	1, 1879
Michael Colleton	“	372 00	D	December	10, 1877
Thomas Hynes	“	264 00	D	February	2, 1888
Edna Wilbur	“	240 00	D	November	29, 1888
John Colleton	“	600 00	D	June	22, 1889
John Rownan	“	600 00	D	June	29, 1889
Patrick Rosney	“	276 00	D	October	1, 1889
Richard Horsface	“	600 00	D	January	26, 1892
John Shea	Pumpman	684 00	D	January	5, 1880
Edward Lange	Carpenter	1,200 00	D	July	17, 1871
Joseph Hale	“	660 00	D	April	4, 1887
James McLemon	“	660 00	D	January	3, 1890
Daniel Daley	Tinner	840 00	D	January	1, 1891
Peter Smith	Gardener	480 00	D	March	26, 1875
Peter Beydler	Tailor	360 00	D	June	24, 1889
Valentine Alexander	Baker	480 00	D	February	16, 1892
Louis Gillespie	Storekeeper	720 00	D	March	20, 1892
Mary Jones	Clothing clerk	264 00	D	January	20, 1877
William Pells	Supervisor	396 00	D	June	27, 1872
Etta Thomas	“	540 00	D	October	18, 1888
Annie McCarthy	Attendant	192 00	D	July	14, 1885
Lizzie Conway	“	240 00	D	June	3, 1877
Lou Barrington	“	240 00	D	April	1, 1881
Catherine Secor	“	228 00	D	November	17, 1885
Kate Riddle	“	240 00	D	January	31, 1886
Robert Neiderer	“	360 00	D	June	28, 1884
Charles Lafferty	“	336 00	D	June	3, 1885
Ada Bryant	“	196 00	D	October	16, 1888
Ida Bryant	“	208 00	D	October	16, 1888
Jennie Hunt	“	204 00	D	January	9, 1889
Mary Henderson	“	18 00	D	April	1, 1889
Lizzie Buttles	“	180 00	D	September	18, 1889
Freda McLean	“	204 00	D	October	6, 1889
Adam Winter	“	324 0	D	April	9, 1890
John Whalen	“	264 00	D	April	15, 1890
Sadie Saylor	“	156 00	D	August	15, 1890
Gilbert Kay	“	324 00	D	August	19, 1890
Mary Hughes	“	240 00	D	September	3, 1890
Jacob Stockholm	“	240 00	D	October	1, 1890
Joseph Glasteller	“	240 00	D	October	9, 1890
Florence Grant	“	168 00	D	October	21, 1890
Nathaniel ecker	“	240 00	D	October	23, 1890
Alva Bishop	“	240 00	D	November	4, 1890
John Bigelow	“	228 00	D	November	24, 1890
Herbert Whelpley	“	264 00	D	November	26, 1890
Charles Fowler	“	216 00	D	March	6, 1891

ROSTER OF STATE EMPLOYES, ETC.—HOSPITAL, HUDSON RIVER STATE, POUGHKEEPSIE—(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Susie Still	Attendant	$156 00	D	March 30, 1891
William Irvin	"	228 00	D	April 1, 1891
Joseph Kepler	"	228 00	D	April 1, 1891
William Smith	"	216 00	D	May 6, 1891
John Dougherty	"	216 00	D	May 17, 1891
Maggie Allison	"	156 00	D	May 20, 1891
William Sanford	"	216 00	D	June 10, 1891
Herbert Traver	"	216 00	D	June 10, 1891
John Draney	"	216 00	D	June 29, 1891
Amelia Bogardus	"	156 00	D	June 18, 1891
Joseph Saylor	"	216 00	D	July 7, 1891
Newton Oberdorf	"	216 00	D	July 16, 1891
Lillian Croft	"	156 00	D	July 17, 1891
Michael Drennen	"	276 00	D	July 21, 1891
Lavinia Van Geisen	"	156 00	D	July 22, 1891
May Van Geisen	"	156 00	D	July 22, 1891
Ida La Due	"	156 00	D	July 27, 1891
Grace La Due	"	156 00	D	July 27, 1891
Olin Bennett	"	264 00	D	August 21, 1891
Thomas Murray	"	312 00	D	August 26, 1891
Frank Matteson	"	216 00	D	August 27, 1891
Lilly Gray	"	156 00	D	September 1, 1891
Hattie Gray	"	156 00	D	September 1, 1891
John Henk	"	156 00	D	September 3, 1891
Adolph D'Luhasch	"	216 00	D	September 11, 1891
James Pyne	"	276 00	D	September 12, 1891
James Boice	"	216 00	D	September 14, 1891
William Petitt	"	216 00	D	September 14, 1891
Edwin Harover	"	216 00	D	September 26, 1891
William Greassle	"	216 00	D	September 26, 1891
George Tanner	"	216 00	D	September 29, 1891
Eva Rice	"	156 00	D	October 1, 1891
Hannah Covil	"	156 00	D	October 3, 1891
Albert Covil	"	216 00	D	October 3, 1891
Michael Connolly	"	216 00	D	October 8, 1891
Charles Bright	"	216 00	D	October 17, 1891
John Burns	"	216 00	D	October 21, 1891
George Evarts	"	216 00	D	October 27, 1891
Viola Berean	"	156 00	D	November 2, 1891
Mary Morris	"	156 00	D	November 2, 1891
Sophia Gentheir	"	168 00	D	November 23, 1891
Conrad Neuner	"	216 00	D	November 24, 1891

John Kelley	"	216 00	D	December	3, 1891
L. A. Markle	"	216 00	D	December	4, 1891
Minnie O'Hearn	"	156 00	D	December	9, 1891
Mary Hurley	"	156 00	D	January	14, 1892
Maggie O'Hearn	"	156 00	D	January	21, 1892
Minerva Starr	"	168 00	D	January	23, 1892
Angie Brink	"	156 00	D	January	26, 1892
E. L. McCormack	"	156 00	D	February	6, 1892
Clara Fuller	"	156 00	D	February	10, 1892
Laura Converse	"	156 00	D	February	10, 1892
Charles Pitcher	"	216 00	D	February	16, 1892
Grant Conrad	"	228 00	D	March	1, 1892
Bruce Keyes	"	216 00	D	March	1, 1892
Ella Bennett	"	156 00	D	March	8, 1892
Walter Norris	"	216 00	D	March	21, 1892
Stephen Secord	"	216 00	D	March	27, 1892
Herman Morschauser	"	216 00	D	March	30, 1892
Mary Wright	"	156 00	D	April	5, 1892
George Esseawein	"	216 00	D	April	6, 1892
Howard Quick	"	216 00	D	April	6, 1892
James Anderson	"	216 00	D	April	6, 1892
Wm. Hanover	"	216 00	D	April	6, 1892
Wm. Whalen	"	216 00	D	April	6, 1892
Robert Hicks	"	216 00	D	April	18, 1892
John Shay	"	216 00	D	April	22, 1892
John Sheedy	"	216 00	D	May	9, 1892
Lizzie Lucas	"	156 00	D	May	12, 1892
William Kerr	"	216 00	D	May	12, 1892
Eugene Moynihan	"	216 00	D	May	7, 1892
Maggie Barnes	"	156 00	D	May	22, 1892
John McGuire	"	216 00	D	May	26, 1892
Mary Murtaugh	"	156 00	D	May	30, 1892
Carrie Conrad	"	156 00	D	June	1, 1892
Margaret Morris	"	156 00	D	June	1, 1892
Nora Finerty	"	156 00	D	June	2, 1892
Eunice Abel	"	180 00	D	June	[illegible], 1892
William Coogan	"	216 00	D	June	14, 1892
Reuben Bennett	"	216 0	D	June	28, 1892
Dennis Lucy	"	216 00	D	July	2, 1892
Elinor Ryan	"	168 00	D	July	5, 1892
Louis Weirdig	"	216 00	D	July	6, 1892
John Reilly	"	216 00	D	July	25, 1892
Chester Germond	"	216 00	D	July	26, 1892
Sarah Giles	"	168 00	D	July	27, 1892
William East	"	216 00	D	July	27, 1892
Frederick Keeling	"	216 00	D	July	28, 1892
Michael Guilfoil	"	216 00	D	August	1, 1892
Thomas Kelley	"	216 00	D	August	3, 1892
Lizzie Duff	"	156 00	D	August	4, 1892
Adam Suffel	"	216 00	D	August	5, 1892

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, HUDSON RIVER STATE, POUGHKEEPSIE — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Edward Newirth	Attendant	$216 00	D	August 8, 1892
Mary MacKeo	"	156 00	D	August 10, 1892
Stephen Mahar	"	216 00	D	August 15, 1892
Mary Woodin	"	156 00	D	August 19, 1892
Mary Kelley	"	156 00	D	September 2, 1892
Nettie Williams	"	156 00	D	September 7, 1892
Andrew Bird	"	216 00	D	September 7, 1892
Frederick Yates	"	216 00	D	September 19, 1892
Thomas Brophy	"	216 00	D	September 19, 1892
Oswold Bergermann	"	216 00	D	September 19, 1892
Zulo Oberdorf	"	156 00	D	September 20, 1892
Robert Welhelm	"	216 00	D	September 20, 1892
Jay Berzee	"	216 00	D	September 23, 1892
George Buchanan	"	216 00	D	October 1, 1892
Kittie McManus	"	156 00	D	October 4, 1892
Elmer Huntley	"	216 00	D	October 13, 1892
Olive Phillips	"	180 00	D	October 16, 1892
Nannie Major	"	180 00	D	October 16, 1892
Leslie Phillips	"	264 00	D	October 16, 1892
Thomas White	"	216 00	D	October 18, 1892
Annie Silsbee	"	180 00	D	October 20, 1892
Alexander Keyes	"	216 00	D	October 20, 1892
Helen Whipple	"	180 00	D	October 21, 1892
Benjamin Whipple	"	276 00	D	October 21, 1892
Ulyssess Hager	"	216 00	D	October 21, 1892
Ira Wright	"	216 00	D	October 24, 1892
Gideon Allen	"	216 00	D	November 9, 1892
Joseph Kibbe	"	216 00	D	November 10, 1892
Elinor Kerr	"	180 00	D	November 11, 1892
Frank Filkins	"	216 00	D	November 16, 1892
William O'Rorke	"	216 00	D	November 16, 1892
Evan Perry	"	216 00	D	November 19, 1892
Robert Butts	"	216 00	D	November 19, 1892
Ella Maher	"	156 00	D	November 23, 1892
Arthur Hammond	"	2 6 00	D	November 23, 1892
Edw. Durin	"	252 00	D	November 24, 1892
Webster Knickerbocker	"	216 00	D	November 28, 1892
Minnie Horton	"	156 00	D	December 1, 1892
Mary Butts	"	156 00	D	December 5, 1892
Minnie Walters	"	156 00	D	December 9, 1892
George Fay	"	216 00	D	December 9, 1892
Alice Bliss	"	156 00	D	December 12, 1892

Annie Morris	“	156 00	D	December 13, 1892
Hannah Ostrander	“	156 00	D	December 21, 1892

HOSPITAL, STATE, ROCHESTER.

Eugene Howard, M. D	Superintendent	4,000 00	B	July 1, 1891
Ezra B. Potter	First assistant physician	2,000 00	B	July 1, 1891
Robert M. Elliott	Second assistant physician	1,200 00	B	July 1, 1891
Eveline P. Ballentine	Female assistant physician	1,200 00	B	July 1, 1891
Frederic P. Allen	Treasurer	600 00	A	July 1, 1891
Willis S. Remington	Steward	1,500 00	C	July 1, 1891
Charles S. Burr, D. D	Chaplain	150 00	A	July 1, 1891
John P. Stewart	“	150 00	A	July 1, 1891
Daisy Campbell	Clerk	300 00	B	July 1. 1891
Earl R. Quackenbush	Accountant	360 00	B	April 1, 1892
Mary E. May	Matron	600 00	C	July 1, 1891
Edward Finerty	Engineer	420 00	D	July 1, 1891
James Sullivan	Storekeeper	336 00	D	July 1, 1891
David Ballagh	Supervisor	444 00	D	July 1, 1891
Julia Keyes	“	324 00	D	July 1, 1891
Joseph Cook	Attendant	420 00	D	July 1, 1891
Wilberforce Davis	“	336 00	D	July 1, 1891
Martin Lannon	“	360 00	D	July 1, 1891
John Michel	“	420 00	D	July 1, 1891
Lewis Van Valkenburg	“	420 00	D	July 1, 1891
William Scott	“	336 00	D	July 1. 1891
Wendel Smith	“	360 00	D	July 1, 1891
John Ballagh	“	336 00	D	July 1, 1891
Patrick Sheridan	“	276 00	D	July 1, 1891
John Guinan	“	360 00	D	July 1, 1891
William Kennedy	“	336 00	D	July 1, 1891
Frank Knowlton	“	324 00	D	July 1, 1891
Jacob Deitz	“	324 00	D	July 1, 1891
Frank Robb	“	420 00	D	July 1, 1891
Eliza Coyne	“	264 00	D	July 1, 1891
Etta White	“	240 00	D	July 1, 1891
Jennie Hasler	“	240 00	D	July 1, 1891
Lizzie Smith	“	216 00	D	July 1, 1891
Carrie Kennedy	“	240 00	D	July 1, 1891
Nellie Atkinson	“	216 00	D	July 1, 1891
Emma Jackson	“	216 00	D	July 1, 1891
Franc Moreley	“	264 00	D	July 1, 1891
Mary Sullivan	“	264 00	D	July 1, 1891
Kate Ballagh	“	264 00	D	July 1, 1891
Dora Longfellow	“	264 00	D	July 1, 1891
Anna Lannon	“	240 00	D	July 1, 1891
Maggie Guinan	“	264 00	D	July 1, 1891
May Davis	“	240 00	D	July 1, 1891
Lizzie Fischer	“	264 00	D	July 1, 1891

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, ROCHESTER — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Kate Scott	Attendant	$264 00	D	July 1, 1891
Nellie Bray	"	216 00	D	July 1, 1891
Minnie Farrell	"	216 00	D	July 1, 1891
Cora Lansing	"	216 00	D	July 1, 1891
Maggie Kinney	"	216 00	D	July 1, 1891
Lena Genthner	"	216 00	D	July 1, 1891
Carrie Albecker	"	216 00	D	July 25, 1891
Ellen Lansing	"	216 00	D	July 30, 1891
Frederick Young	"	312 00	D	August 5, 1891
Wilbur Snyder	"	336 00	D	August 18, 1891
Walter Randall	"	312 00	D	August 22, 1891
Maggie Johnston	"	216 00	D	Augusr 23, 1891
George Coates	"	336 00	D	Septembet 1, 1891
William Pflanz	"	312 00	D	Septembet 2, 1891
Eugene Murtaugh	"	312 00	D	September 15, 1891
Minnie Genthner	"	216 00	D	September 15, 1891
William Koehler	"	420 00	D	August 22, 1891
Otto Alber	"	420 00	D	September 2, 1891
Anna Hogan	"	192 00	D	October 21, 1891
Christina Mason	"	216 00	D	October 21, 1891
Edward Hoffman	"	348 00	D	October 21, 1891
William Hirschman	"	276 00	D	January 30, 1892
Samuel Long	"	276 00	D	May 20, 1892
Annie Hutchinson	"	192 00	D	May 21, 1892
Julia Hogan	"	192 00	D	May 23, 1892
Mary Marshal	"	180 00	D	July 18, 1892
Margaret Thompson	"	192 00	D	July 18, 1892
John Randall	"	276 00	D	July 18, 1892
Anna Farrell	"	192 00	D	July 27, 1892
Mary Mullane	"	192 00	D	September 6, 1892
Katharine Enright	"	180 00	D	October 12, 1892
Mary Kane	"	180 00	D	October 19, 1892
Julia Enright	"	180 00	D	October 27, 1892
Mary O'Hanlin	"	180 00	D	October 27, 1892
William Buck	"	264 00	D	November 25, 1892
H. F. Kingsbury	"	264 00	D	November 25, 1892
William Moore	"	264 00	D	December 29, 1892
P. E. Moran	"	264 00	D	December 30, 1892

HOSPITAL, STATE, UTICA.

G. Alder Blumer, M. D	Superintendent	4,000 00	B	December 14, 1886
William Mabon, M. D	First assistant physician	2,000 00	B	February 8, 1892

Richard R. Daly, M. D.	Second assistant physician	1,600 00	B	March 4, 1892
Harold L. Palmer, M. D.	Third assistant physician	1,400 00	B	March 4, 1892
Whitmore Steele, M. D.	Fourth assistant physician	1,300 00	B	July 1, 1892
Clara Smith, M. D.	Female assistant physician	1,200 00	B	May 15, 1891
Thomas W. Seward	Treasurer	1,500 00	A	January 3, 1873
John R. Jones	Steward	1,400 00	C	January 11, 1887
William D. Gibson, D. D.	Chaplain	1,000 00	A	September 1, 1865
William C. Meyer	Bookkeeper	1,200 00	B	March 16, 1892
Charles A. Mosher	Clerk	480 00	B	October 15, 1889
W. H. Sanford	Apothecary	480 00	B	May 24, 1883
Emma Barker	Matron	500 00	C	October 1, 1867
Arthur Hunt	Electrician	600 00	C	May 1, 1892
Edward Utting	Bookbinder	480 00	D	May 18, 1889
William Diefenbach	Barber	480 00	D	June 17, 1889
John C. Frey	Shoemaker	420 00	D	June 25, 1887
William Freson	Baker	360 00	D	November 14, 1892
John Hughes	Printer	624 00	D	November 23, 1892
Theodore Cramer	Laundryman	720 00	D	November 1, 1890
Gifford Williams	“	540 00	D	November 1, 1890
Fred Breitenstein	Butcher	720 00	D	October 1, 1883
Christian Rice	Baker	600 00	D	April 17, 1879
J. G. Somers	Office boy	180 00	D	April 18, 1887
James Downs	Upholsterer	480 00	D	April 4, 1887
Edward Hungerford	Engineer	960 00	D	August 28, 1890
John Graham	Fireman	480 00	D	April 26, 1864
Michael Brunner	“	480 00	D	August 4, 1880
Henry Siebenlist	“	480 00	D	April 25, 1888
Fred Cono	“	480 00	D	November 24, 1890
Thomas Hayden	“	480 00	D	February 3, 1890
James Lynn	“	480 00	D	January 29, 1885
John Somers	Watchman	480 00	D	May 23, 1884
John Ferris	“	480 00	D	July 6, 1880
James Mulheron	“	480 00	D	July 13, 1882
Sarah Stirling	“	240 00	D	July 19, 1873
Annie Norton	“	216 00	D	April 2, 1890
Meta Wildhock	“	180 00	D	June 17, 1891
Fred Smith	Supervisor	480 00	D	November 18, 1880
Amy Sterling	“	420 00	D	April 20, 1870
Pauline Klein	“	300 00	D	September 13, 1880
Etta Leonard	Assistant matron	360 00	D	September 3, 1886
Nellie Gawkins	Head nurse	300 00	D	March 31, 1885
Hettie Clark	“ “	192 00	D	October 13, 1890
Celia Hooper	“ “	192 00	D	March 17, 1891
Maggie McGrath	“ “	192 00	D	March 30, 1892
Margaret Goodwin	Nurse	144 00	D	July 15, 1889
Jennie Jones	“	192 00	D	July 27, 1889
Amy Mason	“	144 00	D	August 19, 1889
Sophie Geis	“	144 00	D	September 9, 1889
Jane Harper	“	144 00	D	October 30, 1889
Emma Bauer	“	144 00	D	February 18, 1890

ROSTER OF STATE EMPLOYES, ETC. — HOSPITAL, STATE, UTICA — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Kate Lawson	Nurse	$144 00	D	March 24, 1890
Gertie Hunting	"	144 00	D	March 28, 1890
Artie Mosher	"	168 00	D	April 1, 1890
Julia Goodwin	"	144 00	D	August 5, 1890
Mary Dowling	"	144 00	D	September 13, 1890
Mary Jones	"	144 00	D	November 29, 1890
Rose O'Connor	"	144 00	D	December 26, 1890
Anna McCarthy	"	144 00	D	February 18, 1891
Harriet Paine	"	144 00	D	March 24, 1891
Kitty Butler	"	144 00	D	April 27, 1891
Jenny Pierce	"	144 00	D	April 30, 1891
Catherine Gilmour	"	144 00	D	June 3, 1891
Margaretta Allspaugh	"	144 00	D	June 4, 1891
Allie Chase	"	144 00	D	June 4, 1891
Alice Fischer	"	144 00	D	June 8, 1891
Gertrude Brown	"	144 00	D	June 17, 1891
Nellie Fahy	"	144 00	D	July 25, 1891
Catherine Smith	"	144 00	D	September 21, 1891
Jenny Clark	"	144 00	D	January 22, 1892
Ida Gierman	"	144 00	D	February 3, 1892
Belle Lambert	"	144 00	D	February 4, 1892
Sarah Saunders	"	204 00	D	April 5, 1892
Ella Williams	"	144 00	D	April 18, 1892
Jennie Bancroft	"	144 00	D	May 4, 1892
Lucy Swackhamer	"	144 00	D	May 9, 1892
Libbie Perry	"	144 00	D	May 19, 1892
Lizzie Roberts	"	144 00	D	May 30, 1892
Nellie Minor	"	144 00	D	July 12, 1892
Amy Blackburn	"	144 00	D	July 28, 1892
Mary McClelland	"	144 00	D	August 1, 1892
Lizzie Judge	"	168 00	D	August 4, 1892
Alice Pratt	"	144 00	D	September 1, 1892
Clara Lyman	"	144 00	D	September 7, 1892
Mary Boyle	"	144 00	D	September 14, 1892
Kittie Weber	"	144 00	D	September 19, 1892
Edith Jocelyn	"	144 00	D	September 26, 1892
Emile Swackhamer	"	144 00	D	September 26, 1892
Belle King	"	144 00	D	September 26, 1892
Annie Cambridge	"	144 00	D	October 3, 1892
Francis Forbes	"	144 00	D	October 11, 1892
Sadie Lafferty	"	144 00	D	October 22, 1892
S. Francis White	"	144 00	D	October 28, 1892

Nellie Cummings	"	168 00	D	November 7, 1892
Jennie Smith	"	144 00	D	December 5, 1892
Mary Cummings	"	144 00	D	December 12, 1892
Anna Phillips	"	144 00	D	December 12, 1892
Martha Phillips	"	144 00	D	December 12, 1892
Daniel Keiting	Head attendant	312 00	D	May 5, 1890
Thomas Kelly	" "	336 00	D	June 18, 1890
Fred Ellsworth	" "	336 00	D	August 20, 1890
Wm. Williams	" "	312 00	D	March 18, 1891
John Shofer	Attendant	240 00	D	May 13, 1887
Thomas Morris	"	312 00	D	February 4, 1884
John Lynn	"	312 00	D	April 6, 1883
J. W. Down	"	288 00	D	February 28, 1887
P. R Price	"	312 00	D	June 3, 1886
Herbert Austin	"	312 00	D	September 17, 1884
R. P. Pughe	"	240 00	D	September 15, 1887
Nellie Fisher	"	192 00	D	December 20, 1869
Rose Monaghan	"	168 00	D	April 26, 1880
Annie Burns	"	240 00	D	April 12, 1875
Jennie Peckham	"	144 00	D	May 16, 1887
Maggie Gorman	"	168 00	D	May 21, 1886
Isabella Milne	"	144 00	D	June 9, 1887
Timothy Ryan	"	240 00	D	October 14. 1887
Wm. Concannon	"	240 00	D	March 6, 1888
H. C. Pughe	"	240 00	D	April 2, 1888
C. Barton	"	240 00	D	April 4, 1888
John O'Kane	"	240 00	D	April 11, 1888
Frank Gilbert	"	240 00	D	April 30, 1888
Libbie Gilbert	"	168 00	D	April 30, 1888
Matilda Vanderpool	"	168 00	D	April 30, 1888
Fred. Dillon	"	360 00	D	May 2, 1888
Ada Billings	"	168 00	D	May 3, 1888
Peter McHugo	"	240 00	D	April 2, 1888
John Scott	"	240 00	D	June 2, 1888
Michael Griffin	"	240 00	D	June 23, 1888
Edward Hendrick	"	240 00	D	June 30. 1888
Richard Hughes	"	216 00	D	July 17, 1888
Delia Waldron	"	168 00	D	July 18, 1888
Lucy Doyle	"	168 00	D	August 27, 1888
Lizzie McFarnham	"	144 00	D	November 6, 1888
Rose Schindler	"	144 00	D	April 17. 1889
W. A. L. Thomas	"	240 00	D	April 22. 1889
Wm. Shofer	"	240 00	D	May 6, 1889
Rowland Rowlands	"	240 00	D	May 7, 1889
Flora McGrath	"	144 00	D	May 7, 1889
G. P. Williams	"	240 00	D	May 14, 1889
Mary Cambridge	"	144 00	D	June 17, 1889
Lella Price	"	144 00	D	June 17, 1889
Frank Stubley	"	240 00	D	July 19, 1889
Henry Duckett	"	240 00	D	August 24, 1889

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, UTICA — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
George Lee	Attendant	$240 00	D	September 9, 1889
Edward Brush	"	240 00	D	September 30, 1889
James Mitchell	"	240 00	D	November 15, 1889
W. S. Jones	"	312 00	D	November 27, 1889
Wm. Butler	"	240 00	D	April 29, 1890
Fred Rucker	"	312 00	D	April 16, 1890
Christopher Weinrick	"	240 00	D	August 30, 1890
Wm. Jones	"	240 00	D	October 31 1890
Martin Johnson	"	240 00	D	April 13, 1891
Henry Jones	"	240 00	D	April 13 1891
Robert Wilson	"	240 00	D	May 6, 1891
Mathew Hough	"	240 00	D	May 12, 1891
Hugh Fahey	"	240 00	D	May 26, 1891
Edward Burberry	"	240 00	D	May 28, 1891
Martin Mullen	"	240 00	D	June 2, 1891
Judson Coonrod	"	288 00	D	June 13, 1891
Lachlan Smith	"	240 00	D	August 3, 1891
Walter Scott	"	240 00	D	August 15, 1891
George Grant	"	240 00	D	November 25, 1891
William Dudley	"	240 00	D	April 20, 1892
Richard Mortimer	"	240 00	D	May 2, 1892
Thomas Evans	"	240 00	D	May 7, 1892
Thomas Quigley	"	240 00	D	May 10, 1892
Horace Silliman	"	288 00	D	May 28, 1892
Frank McIntyre	"	240 00	D	June 1, 1892
Joseph Hall	"	240 00	D	June 7, 1892
William Davies	"	240 00	D	July 11, 1892
Griffith Evans	"	240 00	D	July 11, 1892
Michael Keating	"	240 00	D	August 22, 1892
Henry Malcolm	"	240 00	D	September 1, 1892
J. B. Roberts	"	240 00	D	September 8, 1892
Robert Reed	"	240 00	D	September 19, 1892
Martin Jensen	"	240 00	D	September 20, 1892
Herbert Laver	"	240 00	D	September 29, 1892
Owen McNally	"	240 00	D	October 10, 1892
John Bachl	"	240 00	D	October 14, 1892
Albert le' Rütte	"	264 00	D	November 14, 1892
N. L. Kling	"	288 00	D	November 14, 1892
J R Miller	"	288 00	D	November 14, 1892
Robert Chance	"	240 00	D	November 29, 1892

ROSTER OF STATE EMPLOYES, ETC.—HOSPITAL, STATE, WILLARD.

Chas. W. Pilgrim, M. D.	Superintendent	$4,000 00	B	February	10, 1889
Alexander Nellis, Jr,. M. D.	Assistant physician	1,800 00	B	April	1, 1883
H. G. Hopkins, M. D.	" "	1,500 00	B	July	1, 1874
Edwin R. Bishop, M. D	" "	1,300 00	B	May	1, 1889
Thomas E. Bamford, M. D.	" "	1,000 00	B	September	1, 1890
Samuel F. Mellen, M. D	" "	900 00	B	March	17, 1891
Henry P. Frost, M. D.	" "	900 00	B	August	1, 1891
Thomas J. Currie, M. D.	" "	800 00	B	December	1, 1891
Emma Putnam, M. D.	" "	1,200 00	B	April	1, 1889
Maurice J. Gilbert	Steward	1,800 00	C	March	17, 1873
James B. Thomas	Treasurer	1,000 00	A	April	19, 1869
Juliet W. Wyman	Matron	600 00	C	January	1, 1885
Richard M. Denton	Clerk	600 00	B	October	1, 1870
William J. McKee	"	600 00	B	February	14, 1882
James Crane	"	480 00	B	November	6, 1885
Patrick Martin	"	360 00	B	April	4, 1882
C. J. Farr	Apothecary	360 00	B	November	22, 1892
Asa Boothby	Teacher	240 00	B	October	15, 1891
George Fenton	Telegrapher	480 00	B	September	11, 1889
James Hasson	Policeman	420 00	D	May	1, 1881
Francis Young	Storekeeper	420 00	D	January	29, 1880
John Mc. McKenna	"	300 00	D	September	7, 1889
Carl Beach	"	144 00	D	June	20, 1892
Ernest Gilgan	Tailor	600 00	D	February	23, 1891
John T. Hagar	Head laundryman	480 00	D	September	29, 1892
James McDonald	Baker	480 00	D	November	1, 1888
Vaughn Slaught	"	276 00	D	July	20, 1887
George Piersol	Cook	700 00	D	April	1, 1880
Mary Kitson	Housekeeper	276 00	D	November	1, 1875
A. Bowlby	"	300 00	D	April	1, 1886
Susan Smith	"	300 00	D	December	14, 1874
Sarah Van Houton	"	300 00	D	August	6, 1892
Robert Wilson	Watchman	420 00	D	August	2, 1875
Mary Rooney	"	264 00	D	May	12, 1875
Mary Halligan	"	240 00	D	August	26, 1879
T. C. Selfridge	"	420 00	D	June	5, 1883
Mary Brown	"	240 00	D	December	10, 1872
Martha Larkin	"	180 00	D	March	15, 1887
Charles Lazenby	"	480 00	D	May	1, 1890
Patrick Feehan	Porter	300 00	D	May	22, 1870
John Murphy	"	240 00	D	March	23, 1887
James Doyle	"	240 00	D	April	18, 1881
George White	"	216 00	D	March	18, 1891
William Latimer	"	192 00	D	March	2, 1891
Stephen Feehan	"	216 00	D	October	10, 1891
Charles Manchester	"	192 00	D	October	13, 1892
Charles Rowley	Engineer	1,200 00	D	September	1, 1869
William Pool	"	540 00	D	January	3, 1878

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, WILLARD — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Richard Roach	Engineer	$720 00	D	August 22, 1887
John Williams	"	600 00	D	March 1, 1880
John Dickson	"	600 00	D	September 10, 1890
George Turnbull	Fireman	420 00	D	May 10, 1877
W. H. Ritch	"	360 00	D	January 22, 1892
W. Hardinbrook	"	420 00	D	January 15, 1882
Peter McKenna	"	420 00	D	January 1, 1871
Timothy Tierney	"	420 00	D	December 11, 1877
John Martin	"	360 00	D	March 16, 1885
Patrick Rafferty	"	420 00	D	March 23, 1872
Bernard Morgan	"	300 00	D	August 2, 1887
John Crennery	"	420 00	D	June 1, 1870
Patrick Hoey	"	360 00	D	September 1, 1872
Thomas Rafferty	"	360 00	D	December 1, 1888
Melvin Austin	"	300 00	D	October 9, 1892
F. E. Norton	"	300 00	D	September 23, 1892
Henry Kitson	Chief Supervisor	620 00	D	November 1, 1875
Louisa Adams	" "	480 00	D	September 15, 1869
William Bolby	" "	480 00	D	April 1, 1886
Harriet Van Hoesen	" "	396 00	D	May 1, 1884
William Farley	" "	480 00	D	August 6, 1872
Anna Lovelace	" "	400 00	D	October 27, 1874
Patrick Roe	Supervisor	420 00	D	April 2, 1877
John Donovan	"	420 00	D	November 4, 1874
Thomas Merriman	"	420 00	D	May 24, 1872
Margaret Irwin	"	264 00	D	October 14, 1875
Alice French	"	264 00	D	August 15, 1888
Rose Donley	Nurse	180 00	D	April 15, 1879
Anna Jensen	"	180 00	D	May 25, 1891
James Piercy	"	300 00	D	October 23, 1888
Ella Lyons	"	216 00	D	February 12, 1880
Belle Weaver	"	180 00	D	November 17, 1891
John McGrane	Attendant	300 00	D	July 8, 1884
L. Doran	"	300 00	D	April 14, 1886
P. Conner	"	288 00	D	February 8, 1887
J. Cranney	"	300 00	D	May 29, 1892
B. Crilly	"	168 00	D	April 1, 1880
W. Harris	"	180 00	D	August 29, 1887
M. Sturgis	"	180 00	D	December 1, 1881
M. Kinney	"	168 00	D	October 5, 1874
C. Henratta	"	192 00	D	May 12, 1880
C. Spear	"	180 00	D	January 31, 1883

C. Craney	"		156 00	D	June	1, 1882
M. Tierney	"		192 00	D	July	15, 1885
A. Quinn	"		264 00	D	July	5, 1886
C. Neilsen	"		240 00	D	April	20, 1885
W. Kerr	"		480 00	D	October	21, 1869
E. Groesbeck	"		192 00	D	November	15, 1877
M. Wands	"		192 00	D	December	1, 1872
M. Tole	"		168 00	D	March	5, 1883
J. McKenna	"		264 00	D	April	27, 1885
T. McKenna	"		240 00	D	October	1, 1869
J. King	"		240 00	D	June	4. 1880
D. Crawford	"		300 00	D	September	30, 1880
M. O'Connell	"		276 00	D	October	2, 1883
J. Van Devyoer	"		180 00	D	November	1, 1887
W. Harte	"		264 00	D	April	12, 1888
E. Finnegan	"		276 00	D	July	5, 1888
M. Keenan	"		192 00	D	August	28, 1888
A. Duffy	"		180 00	D	September	8, 1888
C. Hoolaghan	"		180 00	D	November	7, 1888
E. Hughes	"		180 00	D	November	15, 1888
H. Estes	"		264 00	D	December	1, 1888
C. Killeen	"		168 00	D	March	1, 1889
J. Keenan	"		240 00	D	March	1, 1889
J. McDonnell	"		276 00	D	April	11, 1889
J. Hanratta	"		264 00	D	April	19, 1889
C. Jensen	"		300 00	D	April	25, 1889
J. Rice	"		300 00	D	April	1, 1889
J. Ryan	"		300 00	D	May	20, 1889
M. Kernan	"		192 00	D	June	21, 1889
P. Kinney	"		300 00	D	July	17, 1889
S. McGraw	"		240 00	D	August	11, 1889
M. McGuire	"		168 00	D	September	2, 1889
C. Gordon	"		168 00	D	September	4, 1889
M. Tole	"		144 00	D	September	30, 1889
P. Lyons	"		300 00	D	October	24, 1889
R. Rooney	"		168 00	D	February	24, 1890
L. Condon	"		180 00	D	February	3, 1890
J. Dougherty	"		276 00	D	March	12, 1890
F. Campbell	"		144 00	D	June	19, 1890
T. J. Roe	"		216 00	D	July	1, 1892
J. Duffy	"		180 00	D	April	3, 1890
J. Jensen, Jr	"		264 00	D	June	1, 1890
A. Flaherty	"		180 00	D	July	8, 1890
E. Curren	"		156 00	D	June	28, 1890
W. Wheeler	"		300 00	D	August	7, 1890
G. Healas	"		276 00	D	August	4, 1890
M. Yoffe	"		276 00	D	August	24, 1890
C. Carr	"		300 00	D	September	1, 1890
P. Clark	"		240 00	D	September	15, 1890
J. Clark	"		240 00	D	September	1, 1890

ROSTER OF STATE EMPLOYES, ETC. — HOSPITAL, STATE, WILLARD — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
L. Slaght	Attendant	$168 00	D	September 17, 1890
P. Kenny	"	240 00	D	September 26, 1890
B. Chapman	"	168 00	D	October 1, 1890
P. Doran	"	276 00	D	November 13, 1890
M. Toole	"	168 00	D	November 13, 1890
T. Aldrich	"	180 00	D	December 19, 1890
E. Rooney	"	168 00	D	February 23, 1891
P. Branigan	"	240 00	D	March 23, 1891
M. Neilsen	"	240 00	D	March 30, 1891
V. Coon	"	144 00	D	March 13, 1891
J. Crawford	"	144 00	D	March 16, 1891
C. McElroy	"	216 00	D	March 9, 1891
M. Troutman	"	180 00	D	March 16, 1891
E. Rolfe	"	144 00	D	April 6, 1891
M. Robinson	"	180 00	D	April 3, 1891
P. Shiels	"	240 00	D	April 28, 1891
P. Fleming	"	240 00	D	April 23, 1891
C. Troutman	"	180 00	D	April 1, 1891
J. Keenan	"	240 00	D	May 21, 1891
R. Keenan	"	192 00	D	June 1, 1891
J. Higgins	"	240 00	D	June 10, 1891
E. DeLaney	"	180 00	D	June 22, 1891
M. Jensen	"	168 00	D	June 17, 1891
C. King	"	168 00	D	July 10, 1891
M. Burke	"	216 00	D	July 22, 1891
E. Maynard	"	240 00	D	August 17, 1891
C. Keenan	"	180 00	D	August 26, 1891
H McCarron	"	240 00	D	August 15, 1891
P. McDermott	"	240 00	D	September 22, 1891
J. Vandebroke	"	288 00	D	September 5, 1891
J. Louth	"	240 00	D	September 28, 1891
N. Anderson	"	240 00	D	September 21, 1891
G. Sears	"	276 00	D	September 8, 1890
M. Black	"	192 00	D	August 3, 1881
M. Ryan	"	192 00	D	March 22, 1881
C. Curren	"	168 00	D	October 1, 1888
W. Hyna	"	240 00	D	June 1, 1891
M. Anderson	"	216 00	D	March 19, 1883
M. Malone	"	180 00	D	February 4, 1881
J. Nuhn	"	300 00	D	October 26, 1891
E. Odell	"	180 00	D	October 30, 1891
M. Curley	"	144 00	D	November 4, 1891

A. McGee	"	180 00	D	November 6, 1891
P. Black	"	240 00	D	December 1, 1891
M. McReedie	"	168 00	D	December 3, 1891
M. Arden	"	168 00	D	December 7, 1891
J. Fenton	"	168 00	D	December 8, 1891
J. J. Black	"	156 00	D	December 14, 1891
A. P. Anderson	"	240 00	D	January 5, 1892
M. Foley	"	216 00	D	January 19, 1892
M. Jeffrey	"	168 00	D	January 28, 1892
L. Elling	"	240 00	D	February 6, 1892
M. Robinson	"	240 00	D	February 8, 1892
M. McGuane	"	168 00	D	March 1, 1892
M. Merriman	"	144 00	D	March 7, 1892
O. Gartland	"	216 00	D	March 7, 1892
N. Fenton	"	144 00	D	March 26, 1892
D. O'Neil	"	192 00	D	April 13, 1892
J. Carey	"	240 00	D	April 1, 1892
J. Quinn	"	240 00	D	April 12, 1892
A. Brown	"	240 00	D	April 15, 1892
M. Condon	"	156 00	D	April 4, 1892
J. Kane	"	240 00	D	May 16, 1892
J. Thomas	"	216 00	D	May 26, 1892
P. Riley	"	216 00	D	May 3, 1892
J. Hartigan	"	240 00	D	May 25, 1892
J. Dougherty	"	216 00	D	May 3, 1892
L. Heffernan	"	144 00	D	May 17, 1892
T. Sheils	"	216 00	D	May 17, 1892
T. Rourke	"	216 00	D	May 20, 1892
H Armstrong	"	168 00	D	April 26, 1892
P. Marks	"	216 00	D	May 20, 1892
G. Schreyer	"	240 00	D	May 23, 1892
R. Whyte	"	216 00	D	June 2, 1892
F. Kelly	"	216 00	D	June 20, 1892
G. Chapin	"	144 00	D	June 3, 1892
C. Riordan	"	216 00	D	June 4, 1892
M. Finigan	"	144 00	D	June 28, 1892
J. Kelly	"	216 00	D	June 9, 1892
G. Trimmer	"	180 00	D	June 1, 1892
W. Harvison	"	240 00	D	July 2, 1892
P. Mackin	"	216 00	D	July 5, 1892
C. Sayre	"	216 00	D	July 5, 1892
G. Clark	"	240 00	D	July 16, 1892
S. Clark	"	156 00	D	July 16, 1892
R. Moffat	"	240 00	D	July 17, 1892
A. Gilson	"	144 00	D	July 23, 1892
A. Cannon	"	216 00	D	July 25, 1892
M. Lyman	"	168 00	D	July 28, 1892
E. Pascall	"	144 00	D	July 29, 1892
B. McGuane	"	168 00	D	August 3, 1892
C. McMaster	"	180 00	D	August 5, 1892

ROSTER OF STATE EMPLOYES, ETC.— HOSPITAL, STATE, WILLARD — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
W. Shimer	Attendant	$216 00	D	August 10, 1892
A. Perry	"	168 00	D	August 11, 1892
M. McClellan	"	168 00	D	August 13, 1892
H. Perry	"	216 00	D	August 15, 1892
N. Manchester	"	156 00	D	August 23, 1892
S. Collins	"	216 00	D	August 25, 1892
A. Hyatt	"	180 00	D	August 29, 1892
H. Chase	"	216 00	D	September 1, 1892
M. Watkins	"	156 00	D	September 6, 1892
D. Galway	"	240 00	D	September 6, 1892
D. Burke	"	216 00	D	September 8, 1892
W. Creagh	"	192 00	D	September 19, 1892
K. Ward	"	144 00	D	September 20, 1892
M. Moffatt	"	168 00	D	September 28, 1892
E. Martin	"	144 00	D	October 1, 1892
L. Hines	"	156 00	D	October 3, 1892
A. Hurley	"	216 00	D	October 12, 1892
C. Jensen	"	192 00	D	October 12, 1892
S. Clark	"	144 00	D	October 13, 1892
A. Felt	"	144 00	D	October 13, 1892
J. Osler	"	216 00	D	October 13, 1892
G. Killen	"	240 00	D	October 15, 1892
W. Smith	"	192 00	D	October 24, 1892
M. Traum	"	144 00	D	October 25, 1892
S. P. Anderson	"	192 00	D	October 25, 1892
L. Hancock	"	168 00	D	September 28, 1892
C. Wheeler	"	120 00	D	June 1, 1892
D. Swartout	"	192 00	D	June 13, 1892
C. Sargeant	"	156 00	D	November 1, 1892
E. Brenchly	"	156 00	D	November 1, 1892
D. Lyons	"	192 00	D	November 2, 1892
A. Swift	"	144 00	D	November 3, 1892
J. Clarke	"	192 00	D	November 4, 1892
E. Kane	"	144 00	D	November 5, 1892
R. Hanchett	"	144 00	D	November 5, 1892
E. McGraw	"	144 00	D	November 7, 1892
N. C. Nielson	"	192 00	D	November 8, 1892
J. Rosenburg	"	168 00	D	November 8, 1892
M. Gill	"	120 00	D	November 17, 1892
M. O'Connell	"	192 00	D	November 17, 1892
J. Murphy	"	276 00	D	November 17, 1892
E. Wheeler	"	144 00	D	November 18, 1892

A. Smith	"	144 00	D	November	20, 1892
I. McKee	"	144 00	D	December	5, 1892
J. Waters	"	168 00	D	December	6, 1892
E. Williams	"	168 00	D	December	7, 1892
H. Morgan	"	144 00	D	December	28, 1892
H. Stone	"	144 00	D	December	28, 1892
M. Taylor	"	168 00	D	December	31. 1892
E. M. Tidd	"	216 00	D	December	31, 1892

HOUSE OF REFUGE FOR WOMEN, HUDSON

Sarah V. Coon	Superintendent	1,500 00	C	November	1, 1886
E. Herriman	Bookkeeper	500 00	B	December	1, 1886
C. B. Cure	Steward	1,500 00	C	January	1, 1887
E A. Coventry	Matron	800 00	C	February	1, 1887
H. J. Cotton	"	800 00	C	May	31, 1888
E. Caldwell	Assistant matron	500 00	C	June	1, 1888
M. McRoberts	" "	500 00	C	June	1, 1888
E. A. Vary	" "	500 00	C	June	1, 1888
M. L. Avery	" "	500 00	C	June	1. 1888
Mary M. Ackly	" "	300 00	C	April	1, 1890
Mary E. Van Dusen	" "	300 00	C	May	15, 1890
Mary Cook	" "	300 00	C	February	15, 1891
Lucy A Cook	" "	300 00	C	March	2, 1891
Clara Whitmarsh	Supervisor	500 00	C	June	1, 1892
Mary C Patten	"	800 00	C	November	4, 1891
Elizabeth A. Roe	Assistant supervisor	300 00	C	October	1, 1891
Emma A. Fraleigh	" "	300 00	C	October	23, 1891
Jane A. Winslow	" "	300 00	C	October	23, 1891
Sarah B. Ald-coft	" "	300 00	C	January	1, 1892
Sarah R. King	" "	300 00	C	March	1, 1892
Kate M. Ransom	" "	300 00	C	April	1, 1892
Almira Moody	" "	300 00	C	June	1, 1892
Emma Hiett	" "	300 00	C	August	6, 1892
Susan Reynolds	" "	300 00	C	August	6, 1892
Harriet E Vary	" "	300 00	C	August	6, 1892
Carolyn Lindholm	" "	300 00	C	November	1, 1892
Alice G. McElgrew	" "	300 00	C	November	1, 1892
John Dolan	Watchman	540 00	D	January	1, 1887
W. D. Bell	"	540 00	D	February	26, 1887
Margaret Keefe	Stenographer	360 00	B	October	1, 1892

HUDSON RIVER STATE HOSPITAL.

(See Hospital.)

ROSTER OF STATE EMPLOYES, ETC.—(*Continued*)—INDUSTRIAL SCHOOL, STATE, ROCHESTER.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Vincent M. Masten	Superintendent	$1,750 00	C	February 1, 1892
Franklin H. Briggs	Superintendent of schools	2,050 00	B	June 30, 1890
Azel Backus	Physician	1,000 00	C	February 1, 1861
Rev. P. T. Lynn	Chaplain	1,000 00	A	April 1, 1888
Rev. W. H. Harrington	"	1,000 00	A	April 1, 1888
Thomas J. Curtin	Steward	900 00	C	July 1, 1873
David Bruce	Disciplinarian	1,000 00	B	June 1, 1892
Margaret Craig	Matron	720 00	C	December 15, 1890
Margaret Weldrum	"	720 00	C	August 7, 1892
Emily Killick	Assistant Matron	300 00	C	April 27, 1891
Mary E. Walsh	Assistant to superintendent of schools	720 00	B	February 1, 1892
Mary K. Boyd	Assistant superintendent	1,000 00	B	October 1, 1876
Anna M. Hollenbeck	Teacher	420 00	B	September 1, 1868
M. A. De Poe	"	420 00	B	September 1, 1877
C. A. Murphy	"	420 00	B	September 1, 1879
Lizzie Nelson	"	420 00	D	November 1, 1879
L. Purcell	"	420 00	B	March 1, 1883
C. L. Brace	"	420 00	B	November 1, 1885
Getta V. Clackner	"	420 00	B	September 1, 1886
M. T. O'Kelly	"	420 00	B	October 1, 1887
S. Pierce	"	420 00	B	September 1, 1883
Loretta Wooden	"	420 00	B	October 1, 1887
Eliza B. Gallery	"	420 00	B	January 14, 1889
Kate Whitehead	"	420 00	B	September 24, 1889
Lucy Washington	"	420 00	B	November 21, 1889
Mrs. A. G. Knapp	"	660 00	B	February 26, 1890
M. I. Beaman	"	420 00	B	March 3, 1890
M. L. Maher	"	420 00	B	May 1, 1890
Mrs. J. E. F. Brown	"	420 00	B	July 1, 1890
Mary McCormack	"	420 00	B	September 1, 1890
Maggie Payne	"	420 00	B	November 24, 1890
I. G. Gibbs	"	420 00	B	November 10, 1890
Elizabeth Niver	"	420 00	B	November 24, 1890
M. E. Frazier	"	420 00	B	October 7, 1890
J. S. Murray	"	420 00	B	October 13, 1890
Ola Cross	"	420 00	B	November 17, 1890
Georgiana Dimock	"	420 00	B	January 20, 1891
M. E. Eddy	"	420 00	B	March 2, 1891
Jenny McAuliffe	"	420 00	B	May 18, 1891
Gertrude Wilson	"	420 00	B	April 20, 1891
Belle C. Larmon	"	420 00	B	April 29, 1891
Laura Miller	"	420 00	B	October 5, 1891

H. S. Pratt	“	420 00	B	October	19, 1891
Ella Perrin	“	420 00	B	October	21, 1891
Jennie B. Tompkins	“	420 00	B	May	19, 1892
Nellie M. Shattuck	“	420 00	B	August	17, 1892
Luella A. Parmalee	“	420 00	B	August	17, 1892
Mrs. T. C. Stone	“	420 00	B	September	19, 1892
Mary A. Greene	“	420 00	B	September	19, 1892
Etta E. Southwell	“	420 00	B	September	19, 1892
Franklin S. Stebbins	Clerk	1,200 00	B	April	1, 1892
Charles S. Foote	Bookkeeper	420 00	B	February	1, 1889
C. Gunthner	Instructor	600 00	D	June	1, 1887
H. Van Dyne	“	780 00	D	September	1, 1887
Michael Shay	“	660 00	D	October	29, 1888
Mrs. A. N. Brown	“	300 00	D	September	1, 1890
K. I. Stebbins	“	300 00	D	October	1, 1890
Mrs. A. K. Dimmock	“	300 00	D	January	24, 1891
Helen A. Keogh	“	300 00	D	October	1, 1891
I. T. Culhane	Nurse	540 00	D	November	1, 1887
M. E. Neely	“	300 00	D	October	1, 1876
Mrs. E. Northrup	“	300 00	D	October	23, 1890
Walter I. Perry	Overseer	300 00	D	June	1, 1870
F. A. Vandenburgh	“	540 00	D	May	1, 1887
Wm. V. Stevens	“	360 00	D	December	23, 1890
A. C. Collson	“	660 00	D	February	1, 1892
Timothy Enright	“	240 00	D	September	7, 1892
W. A. Murray	“	360 00	D	November	29, 1892
Mrs. W. A. Murray	“	240 00	D	November	29, 1892
W. P. Cowin	Gate keeper	540 00	D	December	1, 1882
Chas. W. Allen	Carpenter	600 00	D	March	1, 1884
William Tones	Shoemaker	600 00	D	October	1, 1875
James Dowd	Watchman	300 00	D	October	1, 1887
E. M. Roberts	“	600 00	D	September	1, 1887
H. J. Doane	“	540 00	D	June	1, 1888
Katherine Kelly	“	300 00	D	December	1, 1887
J. H Hurley	“	540 00	D	August	2, 1889
Mrs. H J. Palmer	“	300 00	D	September	14, 1889
E. Wendell	“	300 00	D	August	10, 1889
S. G. Gennug	“	300 00	D	December	13, 1890
Thomas Smith	“	520 00	D	January	26, 1891
Frank Sprague	“	240 00	D	September	5, 1891
F B. Raymond	Hallman	540 00	D	January	1, 1888
Jas. Robertson	“	660 00	D	January	1, 1888
Robert Bell	“	480 00	D	December	21, 1891
Wm. Shulz	Baker	540 00	D	August	7, 1888
T. P. Yawman	“	720 00	D	January	18, 1889
Edw. B. Foster	Pattern-maker	720 00	D	May	21, 1889
Geo. T. Lockman	Machinist	864 00	D	June	14, 1889
J. Werder	Tailor	840 00	D	July	17, 1889
Jas. R. Crait	Gardener	600 00	D	December	2, 1889
C. A. Dutcher	Painter	720 00	D	February	1, 1886

ROSTER OF STATE EMPLOYES, ETC.—INDUSTRIAL SCHOOL, STATE, ROCHESTER.—(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
John C. Whitney	Foundryman	$780 00	D	October 7, 1890
Edw. Crane	Engineer	900 00	D	May 28, 1891
Wm. J. McCormack	"	600 00	D	December 14, 1890
David Gentner	Fireman	480 00	D	April 27, 1891
Chas. Stilson	Patrolman	540 00	D	April 22, 1891
Edw. S. Jackson	"	480 00	D	September 28, 1891
A. W. Tuttle	"	480 00	D	November 1, 1891
Edw Streker	Cook	600 00	D	September 30, 1890
Miss E. Hielt	Housekeeper	300 00	D	October 19, 1890
Mrs. Ada E. Rumsey	"	300 00	D	September 26, 1891
Georgia Daniels	"	300 00	D	November 3, 1891
Mrs. A. S. Bames	Care-taker	300 00	D	June 1, 1891
Mrs. J. Dennis	"	300 00	D	August 24, 1891
A. M. Benton	"	300 00	D	December 1, 1891
W. C. Masten	Laundryman	600 00	D	December 5, 1892

INSPECTOR GENERAL.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Thomas H. McGrath	Inspector General	2,500 00	Exempt.	January 1, 1892
William J. Harding	Assistant Inspector General		A	January 25, 1892
A. W. LaRose	Clerk			September 20, 1892
Vacant	Chief clerk	1,350 00	A	

INSPECTOR OF RIFLE PRACTICE.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Benjamin M. Whitlock	Inspector	2,000 00	Exempt.	January 1, 1892
N. B. Thurston	Clerk	1,500 00	C	August 17, 1885

INSTITUTION FOR THE BLIND, BATAVIA.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
A. G. Clement	Superintendent	2,000 00	C	June 10, 1883
Frank Jameson	Accountant	1,200 00	B	February 11, 1878
Mrs. M. E. Ashley	Matron	500 00	C	June 10, 1883
Susan Anderson	Assistant Matron	300 00	C	July 1, 1877
Sarah Chick	" "	300 00	C	June 1, 1880
W. W. Whitcomb, M. D	Physician	400 00	C	June 8, 1892
Wm. E. Harding	Teacher	800 00	B	September 1, 1887
H. P. Maddock	"	480 00	B	October 15, 1882
H. K. Smith	"	500 00	B	September 1, 1876
H. M. Gartland	Teacher	500 00	B	September 9, 1885
Angeline Cutler	"	300 00	B	June 1, 1872
Julia Stone	"	400 00	B	June 1, 1878
Cornelia Phelan	"	400 00	B	June 12, 1889

Sarah Whalen	"	400 00	B	June	12, 1889
Mary McGee	"	400 00	B	August	17, 1892
E. F. Crane	"	500 00	B	August	17, 1892
Jennie Showerman	"	400 00	B	June	14, 1889
George F. Ogden	Musical director	800 00	C	April	20, 1886
Mrs. F. H. Denison	Housekeeper	400 00	D	July	9, 1880
Kate McCann	Usher	200 00	D	June	14, 1882
Chas. Klinitz	Bandmaster	1 50 per day	D	September	1, 1886

INSURANCE DEPARTMENT.

James F. Pierce	Superintendent	7,000 00	Exempt	February	11, 1891
Michael Shannon	First deputy	4,500 00	A	June	9, 1892
Matthew H. Robinson	Second deputy	4,500 00	A	June	9, 1892
John S. Paterson	Actuary	2,500 00	A	December	24, 1867
D. H. Keefer	"	2,100 00	A	June	1, 1889
Ernest C. Reynolds	"	1,500 00	A	April	5, 1890
F. L. French	"	1,500 00	A	January	22, 1890
Thomas J. Judge	"	1,500 00	A	August	1, 1891
E. P. Hanlon	"	1,200 00	A	August	1, 1891
C. M. Odell	"	1,600 00	A	June	1, 1889
John A. Horan	Examiner	2,500 00	A	July	1, 1883
Joseph R. Warren	Special examiner	1,200 00	A	September	12, 1887
Thomas J. McCabe	" "	1,500 00	A	July	9, 1891
F. A. Gremmler	" "	1,500 00	A	May	1, 1891
D. F. Gordon	" "	1,500 00	A	February	11, 1891
L. W. Reddington	Special counsel and examiner (temporary)	2,500 00	A	February	17, 1892
James C. Spencer	" "	4,500 00	A	April	13, 1892
William H. Buckley	Private secretary	1,800 00	A	February	19, 1891
F. M. Smyth	Cashier	2,000 00	A	September	1, 1891
H. A. Houlihan	Stenographer	1,500 00	A	March	18, 1891
Miss M. E. McWilliams	Typewriter	1,000 00	A	April	1, 1891
William H. McCall	Clerk	1,800 00	E	January	1, 1883
James E. Cross	"	1,800 00	E	January	13, 1883
Charles R. DeFreest	"	1,500 00	E	November	4, 1883
Nathaniel Hyatt	"	1,600 00	E	July	1, 1883
James H. G. Connell	"	1,600 00	E	January	1, 1884
M. B. Osborne	"	1,600 00	E	October	7, 1883
Thomas J. Bannon	"	1,600 00	E	October	3, 1883
Alexander Clark	"	1,400 00	B	February	27, 1883
C. S. Crippen	"	1,500 00	E	January	1, 1890
Daniel Finley	"	1,500 00	E	January	1, 1891
H. C. Fisher	"	1,200 00	B	January	1, 1891
C. A. Nicholl	"	1,200 00	B	January	1, 1891
Isaac Vanderpoel	"	3,000 00	E	July	6, 1883
John E. Wallace	"	1,800 00	E	January	1, 1891
Henry D. Appleton	"	2,800 00	E	June	1, 1883
Michael A. Nolan	"	2,000 00	E	June	1, 1883
Burton Wylie	Temporary clerk	1,000 00	B	August	10, 1892

ROSTER OF STATE EMPLOYES — INSURANCE DEPARTMENT — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Thomas F. Behan	Messenger	$1,800 00	B	May 28, 1883
F. A. Dack	Expert printer	900 00	B	February 1, 1892
John F. Kennedy	Night watch	1,080 00	D	December 8, 1884

LUNACY, STATE COMMISSION IN.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Carlos F. MacDonald, M. D.	Commissioner	5,000 00	Exempt	May 22, 1889
Goodwin Brown	"	3,000 00	"	May 16, 1889
Henry A. Reeves	"	10 00 per day	"	May 25, 1889
Timothy E. McGarr	Secretary	2,500 00	A	June 5, 1889
Carroll F. Smith	Stenographer	1,200 00	C	July 18, 1889

NEW CAPITOL, COMMISSIONER OF.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Isaac G. Perry	Commissioner	7,500 00	Exempt	April 9, 1883
Edward W. Sewell	Bookkeeper	2,000 00	B	April 12, 1883
Wm. Serviss	Clerk	3 00 per day	B	May 19, 1890
John J. Grogan	"	3 50 "	B	May 19, 1890
Warren S. Hastings	"	2 50 "	B	May 7, 1891
Edward J. McGoldrick	"	2 50 "	B	May 13, 1891
S. O. Lacey	Draughtsman	5 50 "	B	June 27, 1888
C. M Underwood	"	5 00 "	B	June 27, 1888
A. V. O. De Graff	Messenger	2 50 "	B	June 28, 1888

NORMAL SCHOOLS.

ALBANY.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
William J. Milne	Principal	3,000 00	A	1889
Albert N. Husted	Mathematics	2,000 00	A	1855
Wm. V. Jones	High school department	1,800 00	A	1869
Floyd J. Bartlett	Ancient languages	2,000 00	A	1891
Edward W. Wetmore	Natural sciences	2,000 00	A	1891
Samuel B. Belding	Vocal music	600 00	A	1886
Kate Stoneman	Drawing	450 00	A	1866
Mary A. McClelland	Grammar and history	900 00	A	1869
Margaret S. Mooney	Elocution and English literature	900 00	A	1887
E. Helen Hannahs	Sciences and French	900 00	A	1889

Sara F. Bliss	Methods	1,000 00	A	1890
Clara M. Russell	Methods and critic	1,000 00	A	1892
Ellen J. Pearne	Grammar department	1,000 00	A	1891
Anna E. Pierce	Primary department	900 00	A	1886
Ida M. Isdell	Kindergarten	700 00	A	1885
Helen L. Sewell	Assistant, kindergarten	500 00	A	1888

BROCKPORT.

Charles D. McLean	Principal	2,500 00	A	1868
W. H. Lennon	Natural sciences	1,600 00	A	1869
Charles W. Smith	Mathematics	1,400 00	A	1891
C. D. Seely	Languages	1,400 00	A	1885
Mary P. Rhoads	Preceptress	1,200 00	A	1880
Miss C. M. Chriswell	Grammar	700 00	A	1868
Miss J. E. Lowery	Latin	700 00	A	1871
Miss M. J. Thompson	Methods	700 00	A	1867
Miss C. J. Brown	Assistant preceptress	600 00	A	1890
Miss E. G. Richmond	Elocution and music	600 00	A	1869
Miss S. M Efner	Geography	500 00	A	1867
Miss M. C. White	Intermediate department	500 00	A	1881
Miss L. V. Chapell	" "	500 00	A	1891
Miss B. H. Coleman	Drawing	500 00	A	1890
Miss F. G. Merritt	"	500 00	A	1867
Mrs. M. A. Cady	Principal intermediate department	600 00	A	1869
Mrs. L. C. Williams	Primary department	600 00	A	1885

BUFFALO.

James M. Cassety	Principal	2,500 00	A	1886
M. A. G. Meads	Science and mathematics	1,800 00	A	1875
Mark M. Maycock	Drawing and geography	1,600 00	A	1871
Irving P. Bishop	Sciences	1,800 00	A	1888
Wm. L. Sprague	Languages	1,600 00	A	1889
Joseph Mischka	Music and languages	700 00	A	1872
Anna Eggleston	Methods and critic	1,200 00	A	1884
Mary Wright	Mathematics	900 00	A	1872
Isabella Gibson	Languages	900 00	A	1873
Mary L. Perry	Elocution and history	600 00	A	1889
Laura E. Sprague	Literature and history	900 00	A	1892
Helen G. Burch	Composition and grammar	600 00	A	1892
Gertrude M. Bacon	Superintendent school of practice	150 00	A	1891

CORTLAND.

Francis J. Cheney	Principal	2,800 00	A	1891
Darwin L. Bardwell	Sciences	1,600 00	A	1890
Welland Hendrick	Mathematics	1,600 00	A	1891
J. Edward Banta	Languages	1,400 00	A	1892

ROSTER OF STATE EMPLOYES, ETC.— NORMAL SCHOOLS — CORTLAND — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Martha Roe	Methods	$900 00	A	1869
Mary F. Hendrick	Elocution and literature	750 00	A	1869
Clara E. Booth	Languages	700 00	A	1872
Carrie D. Halbert	Music	500 00	A	1889
Mary L. Webster	Latin and sciences	600 00	A	1891
Margaret H. Hooker	Drawing	700 00	A	1891
Clara J. Robinson	Gymnastics	700 00	A	1892
Mary E. Trow	History	700 00	A	1892
Thomas J. McEvoy	Principal intermediate department	700 00	A	1892
Maria W. Bishop	Critic intermediate department	700 00	A	1890
Mary L. Eastman	Principal primary department	700 00	A	1883
Sara A. Saunders	Critic primary department	700 00	A	1873
	FREDONIA.			
F. B. Palmer	Principal	2,800 00	A	1878
Elizabeth Richardson	Preceptress	1,200 00	A	1871
A. G Freeman	Superintendent of practice	1,400 00	A	1880
M. T. Dana	Vice principal	1,800 00	A	1887
T. C. Burgess	Languages	1,500 00	A	1883
Mrs. Georgine Dewey	Music	400 00	A	1884
Minnie Archibald	Critic	600 00	A	1884
F. N. Jewett	Sciences	1,500 00	A	1886
Miss N. F. Palmer	Principal primary department	700 00	A	1886
Florelle Hoover	Reading	600 00	A	1887
Jessie Hillman	Music		A	1887
Anna McLaury	Literature	800 00	A	1888
Jennie Chapman	Kindergarten		A	1892
Carrie Livermore	Mathematics	500 00	A	1892
Julia Shepard	Drawing	500 00	A	1892
Ruth English	Critic	500 00	A	1892
Mrs. A. Bunnell	Painting		A	
	GENESEO.			
John M. Milne	Principal	2,800 00	A	1889
R. A. Waterbury	Mathematics	1,600 00	A	1871
H. J. Schmitz	Sciences	1,600 00	A	1881
Myra P. Burdick	Literature	1,000 00	A	1874
Frank E. Wells	Languages	1,600 00	A	1889
Phebe B. Hall	Intermediate department	700 00	A	1879

Sara E. Goheen	Primary department	700 00	A	1884
Sarah Parry	Elocution	650 00	A	1889
Emeline Curtiss	History and grammar	600 00	A	1883
Helen Angell	Drawing	600 00	A	1891
Elizabeth McBride	Critic	600 00	A	1874
Julia Bailey	Methods	600 00	A	1892
Mary Burns	Geography and composition	500 00	A	1876
Elizabeth Rorback	Critic	500 00	A	1890
Louise Abbott	Languages	400 00	A	1888
Mary Parks	Music	350 00	A	1871

NEW PALTZ.

Frank S. Capen	Principal	2,800 00	A	1888
Henry L. Griffis	Sciences	1,600 00	A	1888
C. J. Keyser	Mathematics	1,600 00	A	1892
Villa F. Page	Methods and Elocution	1,000 00	A	1888
Isabelle Tillinghast	Literature	850 00	A	1889
K. A. Gage	Languages	900 00	A	1886
Mary L. Freeman	Languages and history	850 00	A	1887
Sara E. Dillon	Drawing	800 00	A	1891
Kate M. Denison	Principal intermediate department	700 00	A	1891
Franc M. Witter	Principal primary department	800 00	A	1888
Anna M. Reed	Music	650 00	A	1890
Charlotte E. Reeve	Critic	600 00	A	1892
Ada E. Cole	"	700 00	A	1892

ONEONTA.

James M. Milne	Principal	2,800 00	A	1888
Percy I. Bugbee	Mathematics	1,800 00	A	1889
Chas. N. Cobb	Sciences	1,600 00	A	1889
Edwin F. Bacon	Languages	1,000 00	A	1889
Vernon P. Squires	"	1,400 00	A	1890
Elizabeth Weingand	Methods and grammar	1,200 00	A	1889
Anna G. Childs	Music	800 00	A	1889
Alice G. Bothwell	History	750 00	A	1891
Harriet A. Gates	Drawing	750 00	A	1891
Winifred E. Parsons	Elocution	750 00	A	1891
Grace B. Latimer	Principal intermediate department	800 00	A	1889
Frances A. Hurd	Critic intermediate department	700 00	A	1889
Gertrude M. Stewart	Principal primary department	700 00	A	1892
Elizabeth R. Hall	Critic primary department	700 00	A	1890

OSWEGO.

E. A. Sheldon	Principal	2,800 00	A	1862
Isaac B. Poucher	Mathematics	1,800 00	A	1862
John W. Stump	Sciences	1,600 00	A	1888

ROSTER OF STATE EMPLOYES, ETC.— NORMAL SCHOOLS — OSWEGO — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
C. F. Hoick	Sciences	$200 00	A	1892
Wm. R. Bishop	Languages	800 00	A	1891
Margaret K. Smith	Grammar, methods and sciences	1,200 00	A	1887
Caroline G. Scales	Literature and history	1,000 00	A	1884
Sarah J. Walter	Methods	770 00	A	1876
Mary A. Lathrop	Methods and music	800 00	A	1891
Amanda P. Funnelle	Methods	1,200 00	A	1889
Mary McElroy	Rhetoric	200 00	A	1884
Elizabeth Salmon	School of practice	100 00	A	1886
Anna Flynn	" "	125 00	A	1890
Josephine Bunker	Kindergarten	300 00	A	1892
	PLATTSBURGH.			
E. N. Jones	Principal	2,800 00	A	1892
Geo. H. Hudson	Sciences	1,800 00	A	1890
Geo. K. Hawkins	Mathematics	1,600 00	A	1890
D. H. Lockwood	Methods and grammar	1,500 00	A	1892
Kate Woodruff	Drawing and critic	800 00	A	1890
Theodora Kyle	History and literature	700 00	A	1892
Alice O'Brien	Reading and elocution	700 00	A	1890
Helen Palmer	Languages	500 00	A	1890
Eleanor Gamble	"	700 00	A	1892
S. Mae Hapgood	Music and critic	700 00	A	1892
Lucy Tracy	Methods and critic	700 00	A	1892
Eliza Keelas	Principal model school	800 00	A	1890
Anna O'Brien	Librarian	500 00	A	1892
	POTSDAM.			
T. B. Stowell	Principal	2,500 00	A	1889
Amelia Morey	Preceptress	1,200 00	A	1869
Warren Mann	Sciences	1,500 00	A	1872
E. W. Flagg	History and literature	1,300 00	A	1883
Ida B. Steyer	Languages	800 00	A	1883
Jane F. Butterick	Principal primary department	800 00	A	1883
J. Ettie Crane	Music	800 00	A	1884
Fred L. Dewey	Languages	1,300 00	A	1885
Freman H. Allen	Mathematics and history	1,200 00	A	1885
Minnie R. Lucas	Elocution	800 00	A	1886
A. W. Morehouse	Mathematics	1,300 00	A	1888

Alice M. Burns	Drawing	800 00	A		1889
Sarah V. Chollar	Botany and composition	600 00	A		1889
James M. Graves	Preparatory department	600 00	A		1890
A. A. Woodard	Principal intermediate department	800 00	A		1891
Henry A. Watkins	Orchestra	200 00	A		1880

ONONDAGA SALT WORKS.

P. J. Brunelkamp	Superintendent	1,500 00	Exempt	February	14, 1883
John M. Jaycox	Deputy superintendent	1,200 00	A	March	15, 1883
Thomas Lane	Chief engineer	1,200 00	C	March	1, 1883
John O'Donnell	" inspector	1,200 00	C	March	1, 1883
Charles Demong	" barrel inspector	840 00	C	March	1, 1883
Peter Therre	Inspector	600 00	C	March	1, 1883
John Mahan	Assistant inspector	600 00	C	March	1, 1883
James Brennan	" "	600 00	C	May	1, 1883
James Madden	" "	600 00	C	May	1, 1883
John F. Davin	" "	600 00	C	June	1, 1885
N. Enders	" "	600 00	C	July	1, 1884
Silas Duell	" "	600 00	C	March	1, 1883
Lawrence Madden	" "	600 00	C	March	1, 1887
Samuel Hurst	Overseer of pumps	600 00	C	April	1, 1884
M. F. Woods	" aqueducts	660 00	C	May	1, 1885
Charles Parker	Receiver	500 00	C	March	1, 1883
John Scanlon	"	540 00	C	March	1, 1883
John Marra	Assistant overseer	600 00	C	May	1, 1886
Adam Axtman	Inspector	600 00	C	March	1, 1883
M. Butler	Assistant inspector	600 00	C	March	1, 1883
John Regan	Supervisor	480 00	C	March	1, 1889
John Joy	Engineer	15 per hour	C	May	1, 1883
Michael Carroll	"	15 "	C	May	1, 1883
M. Ryan	"	15 "	C	April	1, 1884
O. Younker	"	15 "	C	April	1, 1883
Andrew Mahl	"	15 "	C	April	1, 1887
John Meagher	"	15 "	C	March	1, 1888
James Meehan	"	15 "	C	March	1, 1887
Timothy Shine	"	15 "	C	March	1, 1887
Frank O'Neill	"	15 "	C	March	1, 1891
Thomas Gleason	"	15 "	C	March	1, 1891
William Blust	"	15 "	C	March	1, 1891

ORDNANCE, DEPARTMENT OF.

Joshua M. Varian	Chief of ordnance		Exempt	January	1, 1886
John Rice	Clerk	1,260 00	B	January	1, 1883
Moses P. Ross	Watchman and janitor	840 00	D	August	1, 1881
James M. Hughes	" State camp	600 00	D	August	1, 1883

ROSTER OF STATE EMPLOYES, ETC.—(*Continued*).—STATE PRISONS, DEPARTMENT OF.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Austin Lathrop	Superintendent	$6,000 00	Exempt	May 16, 1887
Omar V. Sage	Clerk	3,600 00	A	November 1, 1892
Fred. H. Duell	Messenger	600 00	C	February 1, 1888

PUBLIC BUILDINGS, DEPARTMENT OF.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Michael Delahanty	Superintendent	3,500 00	Exempt	February 1, 1892
Albert T. Hitchcock	Deputy	2,500 00	A	June 1, 1883
William J. Norwood	Chief engineer	2,500 00	B	June 1, 1883
C. M. Griswold	Clerk	1,800 00	A	October 1, 1887
Philip Russ	Messenger	1,500 00	B	June 1, 1883
C. F. R. Coe	Storekeeper	1,500 00	B	May 1, 1892
A. S. Howell	Assistant storekeeper	1,200 00	B	June 1, 1891
William Boyle	Orderly	720 00	Exempt	October 1, 1886
Peter E. Borst	"	720 00	Exempt	January 1, 1890
L. Cashdollar	"	720 00	Exempt	September 1, 1891
H. Fairchild	"	900 00	Exempt	June 1, 1883
H. Marvin	"	900 00	Exempt	June 1, 1887
D. Fitzgerald	"	720 00	Exempt	December 1, 1886
F. P. Fonda	"	720 00	Exempt	August 1, 1889
George E. Fordham	"	720 00	Exempc	Sepember 1, 1891
M. C. O'Neill	"	720 00	Exempt	June 1, 1883
C. H. Smith	"	720 00	Exempt	February 1, 1892
J. R. Terwilliger	"	720 00	Exempt	February 1, 1889
J. B. Howe	"	720 00	Exempt	February 1, 1892
John Walsh	"	720 00	Exempt	October 1, 1887
Thomas Morrisey	"	720 00	Exempt	March 1, 1892
William E. Ostrander	"	720 00	Exempt	March 1, 1892
Charles Alexander	"	720 00	Exempt	March 1, 1892
James McGraw	"	720 00	Exempt	May 1, 1892
J. C. Upton	"	720 00	Exempt	May 1, 1892
Edward Pedlow	"	720 00	Exempt	November 1, 1892
Edward Harrington	"	720 00	Exempt	February 1, 1887
M. Broderick	Elevator man	900 00	B	February 1, 1887
M. Gavan	"	900 00	B	October 1, 1889
James Grady	"	900 00	B	June 1, 1883
William Mageary	"	900 00	B	January 1, 1885
Thos. J. Reilly	"	900 00	B	September 1, 1883
Wm. Smith	"	900 00	B	March 1, 1887
John Dooley	"	900 00	B	January 1, 1892
C Downey	"	900 00	B	March 1, 1892
George Fox	"	900 00	B	March 1, 1892

M. Sheehan	"	900 00	B	March 1, 1892
James Hagerty	"	900 00	B	June 1, 1892
Henry McFeeley	"	900 00	B	July 1, 1892
John Kinsella	"	900 00	B	June 1, 1883
Edward Noxon	"	900 00	B	February 1, 1890
P. J. Ryan	Gas and water	780 00	B	June 1, 1891
Thos. Burns	Watchman	900 00	Exempt	June 1, 1886
A. Reed	"	900 00	Exempt	January 1, 1885
Chas. Eppenstein	"	900 00	Exempt	February 1, 1886
F. M. Jones	"	900 00	Exempt	June 1, 1892
John Rourke	"	900 00	Exempt	December 1, 1802
Michael Dowd	"	900 00	Exempt	February 1, 1887
Thomas Calahan	Upholsterer	1,020 00	B	February 1, 1886
G. W. Butts	"	720 00	B	October 1, 1891
Wm. Buchanan	Rigger	900 00	D	February 1, 1891
Wm. Campbell	"	720 00	D	February 1, 1891
Edward Dickson	Porter	600 00	D	January 1, 1887
W. B. Wood	"	520 00	D	December 1, 1883
H. B. Franklin	"	520 00	D	June 1, 1883
Isaac Abrams	"	520 00	D	October 1, 1888
Abram Myers	"	520 00	D	October 1, 1891
Wm. Allen	"	520 00	D	October 1, 1890
Chas. London	"	520 00	D	November 1, 1891
H. Pinckney	"	520 00	D	January 1, 1892
John Burns	"	520 00	D	January 1, 1892
A. Van Dusen	"	520 00	B	January 1, 1892
Alfred Dana	"	520 00	B	February 1, 1892
S. G. Hardy	"	520 00	B	May 1, 1892
Samuel Mando	"	520 00	B	October 1, 1892
Wm. Carter	"	520 00	B	October 1, 1892
A. J. Myers	"	520 00	B	October 1, 1892
T. W. Robinson	"	520 00	B	November 1, 1892
Wm. Beach	"	520 00	B	November 1, 1892
Sarah Robinson	Porteress	520 00	B	May 1, 1892
C. W. Fowler	Engineer	1,200 00	B	June 1, 1883
Wm. Finnigan	"	1,080 00	B	October 1, 1889
J. D. Powers	"	1,080 00	B	November 1, 1890
George Conley	"	1,080 00	B	February 1, 1892
Eugene Sullivan	"	1,080 00	B	February 1, 1892
Smith O'Brien	"	1,080 00	B	November 1, 1892
R. A. Blackman	"	900 00	B	January 1, 1887
Michael Kelly	"	900 00	B	September 1, 1890
M. F. Monahan	"	1,080 00	B	July 1, 1888
Chas. Scannell	Fireman	1,080 00	D	June 1, 1883
Larry Clinton	"	720 00	D	October 1, 1889
Richard Crone	"	720 00	D	December 1, 1886
John Mullon	"	720 00	D	January 1, 1892
C. Short	"	720 00	D	November 1, 1885
John Ryan	"	720 00	D	October 1, 1889
Peter Grant	"	720 00	D	October 1, 1890

ROSTER OF STATE EMPLOYES, ETC.— PUBLIC BUILDINGS, ETC.—(*Continued*).

NAME.	Title of position	Salary.	Schedule.	Date of entrance into service.
Chas. Devoe	Fireman	$720 00	D	October 1, 1891
John Sheeran	Electrician	1,020 00	B	May 1, 1892
S. D. Parker	Machinist	1,080 00	B	July 1, 1889
John Winne	Steamfitter	3 00 per day	B	May 1, 1888
John Brady	"	3 00 per day	B	March 1, 1892
Robert Gradwell	Tallyman	1,200 00	B	June 1, 1883
Chas. J. Quinn	"	900 00	B	January 1, 1892
David Doyle	Plumber	3 50 per day	B	February 1, 1892
M. F. McGowan	Carpenter	1,080 00	B	July 1, 1883
H. Van Seyoc	"	720 00	B	October 1, 1886
Richard Bowe	"	720 00	B	November 1, 1891
Dominick Foy	Foreman	1,020 00	B	May 1, 1884
James A. Fahy	Janitor	1,200 00	D	June 1, 1883
F. J. Hillebrant	"	1,200 00	D	June 1, 1883

PUBLIC INSTRUCTION, DEPARTMENT OF.

NAME.	Title of position	Salary.	Schedule.	Date of entrance into service.
James F. Crooker	Superintendent	5,000 00	Exempt	April 7, 1892
Jared Sanford	Deputy	3,500 00	A	April 7, 1892
Myron H. Cooney	Financial clerk	1,800 00	A	June 1, 1892
George B Weaver	Statistical clerk	2,200 00	E	April 7, 18-6
Edwin M. Holbrook	Law clerk	2,400 00	C	April 21, 1892
Elisha Curtiss	Inspector teachers' classes	2,500 00	B	August 1, 1892
Eugenia M. Crooker	Confidential clerk and stenographer	1,000 00	A	July 1, 1892
Thomas E. Finegan	Confidential inspector of school buildings	2,000 00	A	December 1, 1892
A. R. MacDonald	Stenographer	1,200 00	B	June 9, 1892
Florence B. Himes	"	700 00	B	October 1, 1892
Aaron J. Oliver	Messenger	720 00	B	July 1, 1887
Thomas O'Neil	Porter	600 00	D	September 1, 1892

QUARANTINE COMMISSIONERS.

NAME.	Title of position	Salary.	Schedule.	Date of entrance into service.
George W. Anderson	Commissioner	2,500 00	Exempt	
John A. Nichols	"	2,500 00	Exempt	
Chas. F. Allen	"	2,500 00	Exempt	
Samuel Guthrie	Secretary	1,800 00	A	May 9, 1892
J. C. A. Rourke	Operator	600 00	B	August 1, 1891
John Solverson	Engineer	1,150 00	B	February 1, 1873
Timothy MacLoughlin	"	1,050 00	B	April 23, 1891
Michael Hanlon	"	960 00	B	January 1, 1891

J. McCarthy	Fireman	480 00	D	May	1, 1892
John Costigan	Boatman	750 00	D	August	15, 1888
Thos Keough	"	720 00	D	May	15, 1892
John Butler	Superintendent	2,500 00	B	July	1, 1888
David Starin	"	1,200 00	B	July	10, 1888
B. A. Owens	"	1,500 00	B	March	4, 1889
Thos. McKeon	Carpenter	900 00	D	September	15, 1888
Thos. Coffey	Captain	1,200 00	B	January	26, 1892
John Lawson	Night watch	120 00	D	January	1, 1892
Anson Martin	"	2 00 per day	D	December	1, 1891
Annie Newman	Cook	540 00	D	March	1, 1892

RAILROAD COMMISSION.

Michael Rickard	Commissioner	8,000 00	Exempt	November	14, 1887
Samuel A. Beardsley	"	8,000 00	Exempt	January	29, 1892
Alfred C. Chapin	"	8,000 00	Exempt	March	15, 1892
William C. Hudson	Secretary	6,000 00	A	March	20, 1883
Eugene B. Hastings	Accountant	3,000 00	E	February	1, 1888
F. K. Baxter	Inspector	3,000 00	E	January	1, 1892
Albert L Judson	Statistician	1,800 00	E	September	1, 1891
Stanley Y. Southard	Assistant accountant	1,500 00	C	December	14, 1885
C. E. Weisz	Marshal	1,500 00	B	June	1, 1892
P. J. Doyle	Proof-reader	1,500 00	B	April	1, 1892
E C. McEntee	Stenographer	1,500 00	B	March	10, 1883
W. H. Terrell	Clerk	1,500 00	B	April	1, 1883
Wm. McNeilly	"	1,500 00	B	March	15, 1892
G. L. Lewis	"	1,500 00	B	May	1, 1892
C. S. Marsh	"	1,200 00	B	June	15, 1892
P. S. Cavanaugh	Messenger	900 00	B	May	18, 1892

REGENTS OF THE UNIVERSITY OF THE STATE OF NEW YORK.

(See University, etc.)

ST. LAWRENCE STATE HOSPITAL.

(See Hospital.)

SCHOOLS, NORMAL.

(See Normal Schools.)

SECRETARY OF STATE.

Frank Rice	Secretary of State	$5,000 00	Exempt	January	1, 1890
Thomas E Benedict	Deputy	4,000 00	A	January	1, 1890
Wm. S. Waterbury	Chief clerk	2,500 00	C	January	1, 1886

ROSTER OF STATE EMPLOYES, ETC. — SECRETARY OF STATE — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Charles V. Hooper	Land clerk	$2,000 00	E	January 1, 1886
Feeborn G. Jewett	Stenographer and confidential clerk	2,200 00	C	February 1, 18-8
Frank White	Examiner of corporations	1,800 00	C	January 5, 1886
Peter Donnelly	Assistant examiner of corporations	1,470 00	C	January 2. 1890
John T. Tracy	Corporation clerk	1,620 00	E	June 30, 1886
John D. Moon	" "	1,320 00	B	March 1, 1886
Alfred M. Hager	Cashier and bookkeeper	1,620 00	C	February 7, 1889
Albert Cornwall	Certificate and alien deposition clerk	1,600 00	E	April 7, 1886
Wm. L. Markell	Clerk	1,320 00	B	June 30, 1886
Cornell S. Hawley	"	1,000 00	B	January 1, 1889
John E. Ashe, Jr.	Typewriter	1,500 00	B	April 9, 1891
George N. Pilsbury	Messenger	1,000 00	C	April 7, 1890
Charles C. Griswold	"	800 00	C	June 25, 1891

SING SING PRISON.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
William R Brown	Agent and warden	3,500 00	C	May 2. 1891
Jas. Connaughton	Principal keeper	2,000 00	C	April 4, 1883
R. J. Campbell	Clerk	2,000 00	D	July 7, 1892
E. M. Dillon	Assistant clerk	1,500 00	C	February 1, 1890
R. T. Irvine, M. D.	Physician	2,000 00	B	January 1, 1892
John C. Weills, D. D.	Chaplain	2,000 00	A	December 26, 1892
G. R. Crissey	Storekeeper	1,200 00	D	August 11, 1891
John J. Lynch	Hallkeeper	1,200 00	D	August 1, 1891
L. M. Rodgers	Kitchen keeper	1,200 00	D	March 1, 1883
Chas. Hilbert	Yardkeeper	1,200 00	D	March 1. 1888
Daniel Brolley	Keeper	900 00	D	February 14, 1883
George Bronson	"	900 00	D	January 15, 1883
Jas. Carroll	"	900 00	D	May 24, 1880
Alfred Conyes	"	900 00	D	September 1, 1885
T. F. Coultry	"	900 00	D	January 15, 1890
T. F. Corrigan	"	900 00	D	September 16. 1890
P. M. Cronin	"	900 00	D	January 19, 1891
J. D. Derrenbacher	"	900 00	D	April 10, 1889
John Durkin	"	900 00	D	December 6, 1889
J. N. DeGraff	"	900 00	D	March 6, 1878
Martin Deely	"	900 00	D	December 3, 1891
J. B. Eaton	"	900 00	D	May 10, 1880
Michael Eustace	"	900 00	D	October 22, 1889
W. J. Ford	"	900 00	D	June 1, 1891
D. W. Ferrick	"	900 00	D	February 12, 1892

C. P. Guernsey	"	900 00	D	March	14, 1879
J. T. Glynn	"	900 00	D	August	17, 1891
O E. Helms	"	900 00	D	June	7, 1892
Jas. Jackson	"	900 00	D	January	1, 1873
E. J. Kinnane	"	900 00	D	November	5, 1891
G. J. Kirsh	"	900 00	D	August	24, 1891
Matthew Kerr	"	900 00	D	August	25, 1892
M. F. Lally	"	900 00	D	March	10, 1891
Thomas Mulligan	"	900 00	D	January	3, 1884
M. T. Mullin	"	900 00	D	January	6, 1883
Michael Mack	"	900 00	D	July	6, 1889
John Maher	"	900 00	D	December	12, 1891
James McCormick	"	900 00	D	March	28, 1882
A. W. McClelland	"	900 00	D	December	7, 1891
S. E. McNeal	"	900 00	D	April	9, 1887
A. J. Nearn	"	900 00	D	July	24, 1891
Judson Ransom	"	900 00	D	January	22, 1892
T. J. Ray	"	900 00	D	June	15, 1891
G. T. Smith	"	900 00	D	July	18, 1891
M. J. Sharkey	"	900 00	D	August	6, 1891
H. C Westlake	"	900 00	D	September	15, 1878
C. L Fitch	Sergeant of guard	900 00	D	October	21, 1889
James Bulger	Guard	780 00	D	February	14, 1891
William Burton	"	780 00	D	January	6, 1892
George Bradshaw	"	780 00	D	March	18, 1892
Richard Burke	"	780 00	D	April	14, 1892
William Cahil	"	780 00	D	October	22, 1891
J. D. Cahil	"	780 00	D	September	9, 1891
M. J. Darby	"	780 00	D	November	4, 1891
Isaac Denniston	"	780 00	D	August	10, 1891
E. A. Dibble	"	780 00	D	May	10, 1892
Michael Gorman	"	780 00	D	January	12, 1892
Joshua Hirst	"	780 00	D	July	24, 1891
J. H. Hulse	"	780 00	D	September	14, 1891
A N. Ingersoll	"	780 00	D	July	19, 1888
John Kelly	"	780 00	D	May	19, 1880
Dennis Kerr	"	780 00	D	June	22, 1888
Matthew Kirsh	"	780 00	D	June	19, 1891
John Lynch	"	780 00	D	September	9, 1891
Robert Lynch	"	780 00	D	April	11, 1892
James Maher	"	780 00	D	May	10, 1892
J. H. Maher	"	780 00	D	June	8, 1891
George Meserole	"	780 00	D	September	2, 1891
Lawrence Murphy	"	780 00	D	March	16, 1892
William Murphy	"	780 00	D	September	1, 1891
James McLean	"	780 00	D	September	5, 1891
James Nangle	"	780 00	D	June	7, 1891
John O'Hara	"	780 00	D	July	27, 1891
John G. O'Hara	"	780 00	D	December	31, 1892
Solomon Post	"	780 00	D	February	3, 1892

ROSTER OF STATE EMPLOYES, ETC.—SING SING PRISON—(*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
L. A. Rosencrance	Guard	$780 00	D	July 27, 1891
Philip Shoemaker	"	780 00	D	September 19, 1891
B. Tompkins	"	780 00	D	July 1, 1892
C. H. Vaughn	"	780 00	D	July 28, 1891
P. A. Van Sickle	"	780 00	D	August 22, 1892
T. S. Wheeler	"	780 00	D	September 7, 1891
John Hyland	Night watch	780 00	D	August 1, 1891

SOLDIERS' AND SAILORS' HOME, BATH.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Gen. Wm. F. Rogers	Superintendent	2,000 00	C	October 6, 1887
Samuel Leavitt	Adjutant	720 00	A	August 1, 1887
R. H McPherson	Clerk	600 00	B	October 15, 1884
Frank P. Frost	Steward	900 00	C	October 1, 1889
T. O. Burteson, M. D	Surgeon	1,500 00	C	October 25, 1890
Emory Pixley, M. D	Assistant surgeon	900 00	C	February 1, 1892
S. S. Fairchild	Clerk	600 00	B	January 20, 1890
H. H. Havill	Engineer	1,044 00	D	January 20, 1880
Elmer Kleckler	"	420 00	D	January 16, 1890
E. M. Havill	Assistant engineer	600 00	D	August 1, 1883
Henry Drummer	Florist	600 00	D	November 29, 1885
Robert McCullough	Gardener	504 00	D	April 1, 1886
Allen Kinnear	Cook	600 00	D	October 1, 1890
Hugh Gaffney	"	600 00	D	January 1, 1889
Walter Johnson	Baker	480 00	D	July 1, 1882
B. Freeman	Farmer	480 00	D	April 1, 1888

STATUTORY REVISION COMMISSION.

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Daniel Magone	Commissioner	3,000 00	Exempt	March 1, 1892
Charles A. Collins	"	3,000 00	Exempt	May 15, 1889
John J. Linson	"	3,000 00	Exempt	March 1, 1892
Robert C. Cumming	Clerk	1,500 00	Exempt	April 1, 1890
M Danaher	"	1,500 00	Exempt	October 1, 1890
Owen L. Potter	"	1,500 00	Exempt	April 1, 1890
Frank B. Gilbert	"	1,500 00	Exempt	November 1, 1890
Wm. C. Birmingham	Stenographer	1,000 00	Exempt	June 1, 1891
Elizabeth A. Carroll	Typewriter	600 00	Exempt	August 1, 1892
Mary L. Waite	"	600 00	Exempt	August 15, 1892
Grace Dorn	"	600 00	Exempt	September 15, 1892
Kittie A. Lewis	"	540 00	Exempt	October 1, 1892

TREASURER.

Elliot Danforth	Treasurer	5,000 00	Exempt	January	1, 1890
George B. Church	Deputy	4,000 00	A	January	1, 1890
Wm. C. Hackney	Cashier	2,500 00	A	June	1, 1890
James H. Schooley	Chief clerk	2,400 00	C	May	1, 1875
George W. Irish	Bookkeeper	1,800 00	A	January	1, 1890
J. Edward Young	Corporation clerk	1,500 00	C	April	1, 1890
George B McCartee	Warrant clerk	2,000 00	B	January	1, 1890
Morris C. Fenton	Clerk and messenger	1,000 00	C	November	1, 1892
Ada R. Sands	Stenographer	None.	B	June	1, 1892

UNIVERSITY OF THE STATE OF NEW YORK, EXECUTIVE DEPARTMENT, REGENTS OF.

Anson J. Upson	Chancellor	None	Exempt	February	11, 1874
William C. Doane	Vice-Chancellor	None	Exempt	February	10. 1892
Martin I. Townsend	Regent	None	Exempt	April	24, 1873
William L. Bostwick	“	None	Exempt	March	9, 1879
Chauncey M. Depew	“	None	Exempt	January	31, 1877
Charles E. Fitch	“	None	Exempt	January	31, 1877
Orris H. Warren	“	None	Exempt	April	11, 1877
Whitelaw Reid	“	None	Exempt	January	17, 1878
William H. Watson	“	None	Exempt	February	2, 1881
Henry E. Turner	“	None	Exempt	February	2, 1881
St. Clair McKelway	“	None	Exempt	January	10, 1883
Hamilton Harris	“	None	Exempt	March	18, 1885
Daniel Beach	“	None	Exempt	March	18, 1885
Willard A. Cobb	“	None	Exempt	February	2, 1886
Carroll E. Smith	“	None	Exempt	January	24, 1888
Pliny T. Sexton	“	None	Exempt	April	15, 1890
T. Guilford Smith	“	None	Exempt	April	15, 1890
Melvil Dewey	Secretary	$5,000 00	A	December	12, 1888
James R. Parsons, Jr	Director of examinations	3,000 00	A	March	14, 1892
Asa C. Gallup	Chief clerk and examiner	2,400 00	E	January	1, 1892
Mary Seymour	Secretary's assistant	1,500 00	E	April	1, 1889
E. Maud Sands	Report clerk	660 00	B	October	22. 1889
Alice G. Turner	Bookkeeper	600 00	B	June	1, 1891
Henry I. Knickerbocker	Messenger	720 00	B	November	15, 1890
Frank T. Boland	Stenographer	900 00	B	June	12, 1891
Fred M. Baker	Junior clerk	420 00	B	March	1, 1891
Martha L. Phelps	“ “	360 00	B	February	2, 1891
John Gardinier	Messenger	480 00	B	December	8, 1882
Charles F. Wheelock	Inspector	3,000 00	E	October	6, 1891
Myron T. Scudder	“	1,800 00	E	May	9, 1892
Joseph W. Ellis	Examiner	1,200 00	B	October	1, 1891
Mary S. Cutler	“	1,320 00	B	April	1, 1889
Verlista Shaul	“	900 00	B	September	1, 1890
Ella L Richardson	“		B		
Adele B. Alexander	Record clerk	900 00	B	October	1, 1888

ROSTER OF STATE EMPLOYES, ETC.— UNIVERSITY OF THE STATE OF NEW YORK — (*Continued*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
Isabel Lamont	Assistant record clerk	$600 00	B	November 18, 1886
Mrs. Ida G. McMillan	Credential clerk	900 00	B	December 18, 1889
Minnie L. Vanderzee	Stenographer	540 00	B	October 13, 1890
Katharine H. Chapman	Examiner	360 00	B	August 5, 1891
Mary E. Keyes	"	480 00	B	November 34, 1890
Katherine L. McDonough	"	600 00	B	November 26, 1890
Elizabeth L. O'Neill	"	480 00	B	August 1, 1891
Mary A. O'Connor	"	420 00	B	July 31, 1891
Ada F. Crounse	"	360 00	B	July 21, 1891
Anna T. Keyser	"	600 00	B	October 1, 1891
Mrs. Mary F. Passenger	"	360 00	B	August 18, 1891
Harriet B. Kennedy	"	420 00	B	October 1, 1891
Minnie L O'Neill	"	420 00	B	October 1, 1891
Mary F. Ray	"	420 00	B	October 1, 1891
Mrs. Irene C. Uline	"	420 00	B	October 5, 1891
Katherine I. Smith	"	420 00	B	October 5, 1891
Inez M. Schwartz	"	420 00	B	August 3, 1891
Lulu Hyland	"	240 00	B	August 3, 1891
Agnes H. O'Neill	"	360 00	B	February 1, 1892
James Gibson	"	1,200 00	B	May 9, 1892
Harriet A. Chapman	Stenographer	240 00	B	August 17, 1891
Martha Dickson	"	360 00	B	June 27, 1892
Herbert J. Hamilton	Junior clerk	360 00	B	August 24, 1891
Ella R. McDowell	" "	300 00	B	August 17, 1891
Minnie Sennett	" "	240 00	B	July 11, 1892
May J. McLoughlin	" "	240 00	B	July 11, 1892
Mary A. McLoughlin	" "	240 00	B	July 11, 1892
Elizabeth Ahern	" "	240 00	B	July 11, 1892
Ellen Sands	" "	240 00	B	July 11, 1892
Mary A. Murphy	" "	240 00	B	January 11, 1892
Anna Weis	" "	240 00	B	January 11, 1892
Alice T. Ryan	" "	240 00	B	January 11, 1892
Alice McCormack	" "	360 00	B	December 15, 1891
Elizabeth A. McDermott	" "	360 00	B	February 12, 1892
Lottie A. Wemple	" "	300 00	B	February 4, 1892
Frances Ronan	" "	300 00	B	February 5, 1892
Elizabeth G. Fealey	" "	360 00	B	February 6, 1892
Dora Schlessinger	" "	240 00	B	February 8, 1892
Hannah Hamlin	" "	300 00	B	February 8, 1893
Grace D. Allen	" "	300 00	B	February 8, 1892
Daisy Hydeman	" "	240 00	B	January 20, 1892
Fanny M. Wensley	" "	240 00	B	January 22, 1892

Lily A. Walker	" "	300 00	B	January	25, 1892
Dora N. Taylor	College assistant	600 00	B	October	29, 1892
Grace Eastman	" "	600 00	B	November	1, 1892
Myrtilla Avery	" "	600 00	B	November	1, 1882
Fred Sherley	Assistant University Extension	900 00	B	August	5, 1891
James J. Nolan	Page	180 00	B	October	28, 1892
George B. Graves	Page	180 00	B	December	21, 1892

STATE LIBRARY.

S. B. Griswold	Librarian	2,000 00	C	June	8, 1868
George R. Howell	Assistant librarian	2,000 00	C	December	12, 1888
Walter S. Biscoe	" "	2,000 00	C	April	1, 1889
D. V. R. Johnston	" "	1,800 00	C	July	1, 1883
Mary S. Cutter	" "	1,500 00	C	April	1, 1889
Harry E. Griswold	" "	900 00	C	July	14, 1880
William B. Shaw	" "	1,200 00	C	April	1, 1891
Nina E. Brown	" "	900 00	C	April	1, 1889
Ada A. Jones	" "	960 00	C	April	1, 1889
Florence E. Woodworth	" "	1,200 00	C	April	1, 1889
Elizabeth Harvey	" "	720 00	C	November	7, 1890
Ada Bunnell	" "	720 00	C	July	14, 1891
Charles W. Plimpton	" "	720 00	C	July	14, 1891
Martha T. Wheeler	" "	720 00	C	July	14, 1891
Charlotte S. Fearey	" "	600 00	C	October	1, 1892
Mabel Temple	" "	720 00	C	May	1, 1891
William S. Burns, Jr	" "	600 00	C	October	1, 1892
W. R. Eastman	" "	1,200 00	C	August	1, 1892
Elizabeth L. Foote	" "	600 00	C	August	1, 1892
Mary L. Sutliff	" "	30 per hour	C	August	1, 1892
J. Murray Downs	Junior clerk	420 00	B	April	15, 1889
Mary C. O'Brien	"	420 00	B	February	2, 1891
Judson T. Jennings	Page	600 00	B	October	1, 1892
Joseph O'Brien	"	180 00	B	July	13, 1892
Chester Utter	"	300 00	B	April	3, 1891
Patrick F. Driscoll	"	300 00	B	October	1, 1890
Michael Driscoll	"	180 00	B	September	12, 1892
Philip J. McCormack	"	180 00	B	September	29, 1892
John McDonald	"	240 00	B	April	3, 1891
Thomas Driscoll	"	180 00	B	November	30, 1892
Gerald Griffin	"	180 00	B	December	22, 1892

STATE MUSEUM.

James Hall	Geologist	3,600 00	C		1837
J. A. Lintner	Entomologist	2,100 00	C	July	19, 1881
Charles H. Peck	Botanist	2,000 00	C		1866
Frederick J. H. Merrill	Assistant geologist	2,000 00	C	October	1, 1890
John M. Clarke	" paleontologist	2,000 00	C	January	1, 1886

ROSTER OF STATE EMPLOYES, ETC.—STATE MUSEUM — (*Concluded*).

NAME.	Title of position.	Salary.	Schedule.	Date of entrance into service.
William B. Marshall	Assistant zoologist	$1,400 00	C	March 13, 1890
Jacob Vandeloo	Confidential clerk	600 00	A	February 4, 1892
Edward L. Haines	Stenographer	600 00	B	October 10, 1892
Martin Sheehy	Messenger	840 00	B	May 1, 1877
Joseph Morje	Page	150 00	B	December 23, 1892
Philip Ast	Lithographer	1,500 00	C	1867
E. Emmons	Assistant to State geologist	600 00	C	1870

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ANNUAL REPORT

OF THE

Conrad Poppenhusen Association

For the Year 1892.

TRANSMITTED TO THE LEGISLATURE MARCH 8, 1893.

ALBANY:
JAMES B. LYON, STATE PRINTER.
1893.

STATE OF NEW YORK.

No. 66.

IN ASSEMBLY,

MARCH 8, 1893.

ANNUAL REPORT

OF THE

CONRAD POPPENHUSEN ASSOCIATION.

COLLEGE POINT, *January*, 1893.

To the Honorable the Legislature of the State of New York:

In pursuance to section 16, chapter 667 of the Laws of the State of New York, passed May 6, 1868, the undersigned herewith submits the annual report for 1892 of the Conrad Poppenhusen Association.

F. MARTENS,
Secretary.

REPORT.

Receipts.

Balance on hand January 1, 1892		$2,161 52
Interest on $4,000 College Point village bonds, seven per cent	$280 00	
Interest on $1,000 College Point water bonds, seven per cent	70 00	
Interest on $10,000 Long Island City and Flushing bonds, six per cent	600 00	
Interest on $12,000 Tennessee Coal and Iron Railroad bonds, six per cent	720 00	
Interest on $7,000 Richmond and Danville debenture bonds, six per cent (six months)	210 00	
Interest on $4,000 Richmond and West Point Terminal and Warehouse bonds, six per cent (six months),	120 00	
Interest on $12,000 Northern Pacific railroad consolidated bonds, five per cent	600 00	
Interest on $5,000 Long Island railroad general bonds, four per cent	200 00	
Interest on $3,000 Atchison, Topeka and Santa Fé first bonds, four per cent	120 00	
Interest on $10,000 Atchison, Topeka and Santa Fé incomes, including exchange	312 50	
Interest on $3,000 Missouri, Kansas and Texas first bonds, four per cent,	120 00	

Interest on $2,000 Missouri, Kansas and Texas second bonds, four per cent (six months)	$40 00	
Interest on $6,000 Wabash railroad first bonds, five per cent	300 00	
Interest on $5,000 bond and mortgage, A. C. Reuss, six per cent	300 00	
Interest on $3,000 bond and mortgage, Ch. Grell, six per cent	180 00	
		$4,172 00
Village bonds Nos. 37, 38, 39, redeemed		3,000 00
Mortgage of Ch. Grell, part paid off		500 00
Rents		1,250 54
Sundries		82 47
		$11,167 03

DISBURSEMENTS.

For kindergarten :		
Salaries of teachers, $1,000 ; supplies, $32.16		$1,032 16
For evening classes :		
Salaries of teachers, $732.26 ; supplies and advertising, $97.75		830 01
For library and reading-rooms :		
Salary of assistant, $84 ; supplies, $105.78		189 78
For general expenses :		
Salary of janitor and disbursements	$623 35	
Lighting	344 70	
Fuel	273 44	
Water rent	22 89	
Furnace, plumbing, etc., and repairs	82 65	
Insurance	354 38	
Sundries	59 75	
		1,761 16
For investment :		
Seven Missouri, Kansas and Texas first mortgage four per cent bonds		5,615 00
Balance on hand December 31, 1892, in Chemical National Bank		1,738 92
		$11,167 03

FIFTY-SECOND ANNUAL REPORT

OF THE

New York State Agricultural Society

FOR THE YEAR 1892.

TRANSMITTED TO THE LEGISLATURE MARCH 16, 1893.

ALBANY:
JAMES B. LYON, STATE PRINTER.
1893.

STATE OF NEW YORK.

No. 67.

IN ASSEMBLY,

March 16, 1893.

ANNUAL REPORT
OF THE
NEW YORK STATE AGRICULTURAL SOCIETY.

STATE OF NEW YORK:

Albany, N. Y., *March* 16, 1893.

Hon. William Sulzer,

Speaker of the Assembly:

Sir.—I herewith transmit to the Legislature the Fifty-second Annual Report of the New York State Agricultural Society, and the abstracts and documents accompanying the same.

Very respectfully yours.

G. HOWARD DAVISON,

Corresponding Secretary.

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OFFICERS FOR 1893.

President.

Hon. JOHN B. DUTCHER,	Pawling, Dutchess.

Vice-Presidents.

First District	Mr. W. Judson Smith, New York city.
Second District	Mr. Oakleigh Thorne, Millbrook, Dutchess.
Third District	Mr. James Hilton, New Scotland, Albany.
Fourth District	Mr. John S. Van Horn, Fonda, Montgomery.
Fifth District	Mr. A. R. Eastman, Waterville, Oneida.
Sixth District	Dr. C. D. Smead, Logan, Schuyler.
Seventh District	Mr. M. C. Remington, Weedsport, Cayuga.
Eighth District	Col. H. Bowen, Medina, Orleans.

Corresponding Secretary.

Mr. G. Howard Davison	Millbrook, Dutchess

Recording Secretary.

Hon. Seth Fenner	East Aurora, Erie.

Treasurer.

Mr. A. C. Chase	Syracuse, Onondaga.

Executive Board.

Maj. Davis Cossitt	Onondaga, Onondaga.
Mr. J. F. Converse	Woodville, Jefferson.
Mr. S. D. Willard	Geneva, Ontario.
Hon. F. O. Chamberlain	Canandaigua, Ontario.
Hon. W. P. Richardson	Goshen, Orange.
Mr. Nelson Bogue	Batavia, Genesee.
Mr. F. B. Redfield	Batavia, Genesee.
Mr. D. F. Wilber	Oneonta, Otsego.

Ex-Presidents.

Mr. James McCann	Elmira, Chemung.
Hon. James Geddes*	Fairmount, Onondaga.
Mr. W. A. Wadsworth	Geneseo, Livingston.
Mr. James Wood	Mt. Kisco, Westchester.
Hon. Orlando B. Potter	New York city.

Consulting Veterinarian.

Prof. James Law, F. R. V. C.	Ithaca, Tompkins.

Consulting Entomologist.

Prof. J. A. Lintner, *State Entomologist*	Albany.

Consulting Botanist.

Prof. Charles H. Peck, *State Botanist*	Albany.

State Agricultural Rooms.

The office of the society is in Agricultural Hall, corner of State and Lodge streets, Albany.

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* Deceased.

OFFICERS OF KINDRED SOCIETIES.

NEW YORK STATE DAIRYMEN'S ASSOCIATION.

President.—Frank Blanding	Hubbardsville.
Vice-President.—E. S. Munson	Franklin.
Secretary.—B. D. Gilbert	Clayville.
Treasurer.—George T. Powell	Ghent.

Directors.

A. R. Eastman	Waterville.
Dr. L. L. Van Slyke	Geneva.
George A. Smith	Frankfort.
A. Chase Thompson	Oswego.
A. D. Baker	Aurelius.
D. F. Wilber	Oneonta.

WESTERN NEW YORK HORTICULTURAL SOCIETY.

President.—William C. Barry		Rochester.
Vice-Presidents.—	S. D. Willard	Geneva.
	Wing R. Smith	Syracuse.
	George A. Sweet	Dansville.
	C. L. Hoag	Lockport.
Secretary and Treasurer.—John Hall		Rochester.

NEW YORK STATE AMERICAN MERINO SHEEP BREEDERS' ASSOCIATION.

President.—S. B. Lusk	Batavia.
Vice-President.—C. Collins	Victor.
Secretary and Treasurer.—J. Horatio Earll	Skaneateles.

Executive Committee.

H. Cordenio Smith	Marcellus Falls.
George S. Hickox	Canandaigua.
R. M. Lee	South Bloomfield.

CONSTITUTION.

The style of this society shall be "The New York State Agricultural Society." Its object shall be to improve the condition of agriculture, horticulture, the household and mechanical arts.

SECTION 1. The society shall consist of such citizens of the State as shall signify in writing their wish to become members, and shall pay, on subscribing, not less than one dollar, and annually thereafter one dollar; and also of honorary and corresponding members. The presidents of county agricultural societies, or a delegate from each, shall, *ex-officio*, be members of this society. The payment of ten dollars or more, as fixed by the executive board, shall constitute a member for life, and shall exempt the donor from annual contibutions.

§ 2. The officers of the society shall consist of a president, eight vice-presidents, one to be located in each judicial district, a recording secretary, a corresponding secretary, a treasurer, and an executive committee of eight additional members. The executive board shall consist of the officers above named, and five of the ex-presidents whose term of office has last expired, of whom eight shall constitute a quorum.

§ 3. The president shall preside at all meetings of the society and of the executive board when present. In his absence a vice-president shall be named by the meeting for that occasion.

§ 4. The recording secretary shall keep the minutes of meetings of the society. The corresponding secretary shall carry on the correspondence with other societies, with individuals, and with the general public, in the furtherance of the objects of the society.

The treasurer shall keep the funds of the society, and disburse them on the order of the president or the chairman of the finance committee, countersigned by the corresponding secretary, and shall make a report of the receipts and expenditures, at the annual meeting in January. He shall give bonds in the sum of $15,000 for the faithful performance of his duties.

The executive board shall transact the general business of the society, and shall take charge of and distribute or preserve all seeds, plants, books, models, etc., which may be transmitted to the society; and shall have also the charge of all communications designated or calculated for publication, and, so far as they may deem expedient, shall collect, arrange and publish the same in such manner and form as they shall deem best calculated to promote the objects of the society.

§ 5. There shall be an annual meeting of the society on the third Wednesday in January, in the city of Albany, at which time all the officers shall be elected by a plurality of votes, and by ballot, with the exception of the five vice-presidents. The executive board shall have power to fill any vacancies which may occur in the offices of the society during the year. Extra meetings of the society may be convoked by the executive board, and fifteen members shall be a quorum for the transaction of business. No person shall be qualified to vote at any election of officers of the society, unless he shall have been a life member of the society for at least thirty days prior to such election, or be an *ex-officio* member from a county society.

§ 6. The society shall hold an annual cattle show and fair, to begin on the second Thursday in September and continue until 3 o'clock P. M., of the succeeding Thursday.

§ 7. Neither the president, vice-presidents or any other member of the executive board, except the corresponding secretary and treasurer shall receive any pecuniary compensation for any services rendered to or for the society, by them or either of them.

§ 8. The constitution may be amended by vote of two-thirds of the members attending any annual meeting, upon one year's previous notice in writing.

EX-PRESIDENTS, AND THE PLACES OF THE FAIRS.

Year.	Name.	Place of fair.
1841	Joel B. Nott*	Syracuse.
1842	James S. Wadsworth*	Albany.
1843	James S. Wadsworth*	Rochester.
1844	John P. Beekman*	Poughkeepsie.
1845	Benjamin P. Johnson*	Utica.
1846	John M. Sherwood*	Auburn.
1847	George Vail*	Saratoga.
1848	Lewis F. Allen*	Buffalo.
1849	John A. King*	Syracuse.
1850	Ezra D. Prentice*	Albany.
1851	John Delafield*	Rochester.
1852	Henry Wager*	Utica.
1853	Lewis G. Morris	Saratoga.
1854	William Kelly*	New York.
1855	Samuel Cheever*	Elmira.
1856	Theodore S. Faxton*	Watertown.
1857	Alonzo S. Upham*	Buffalo.
1858	William T. McCoun*	Syracuse.
1859	Abraham B. Conger*	Albany.
1860	Benjamin N. Huntington*	Elmira.
1861	George Geddes*	Watertown.
1862	Ezra Cornell*	Rochester.
1863	Edward G. Faile*	Utica.
1864	James O. Sheldon	Rochester.
1865	Theodore C. Peters*	Utica.
1866	John Stanton Gould*	Saratoga.
1867	Marsena R. Patrick*	Buffalo.
1868	Thomas Hall Faile*	Rochester.
1869	Samuel Campbell*	Elmira.
1870	Solon D. Hungerford*	Utica.
1871	Richard Church	Albany.
1872	Milo Ingalsbe	Elmira.
1873	Benjamin F. Angle	Albany.
1874	Harris Lewis*	Rochester.
1875	Alexander S. Diven	Elmira.
1876	Edwin Thorn*	Albany.
1877	Patrick Barry*	Rochester.
1878	George W. Hoffman	Elmira.
1879	Horatio Seymour*	Utica.

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* Deceased.

Year.	Name.	Place of fair.
1880	N. Martin Curtis	Albany.
1881	Robert J. Swan*	Elmira.
1882	John D. Wing	Utica.
1883	George F. Mills	Rochester.
1884	William M. White	Elmira.
1885	James W. Wadsworth	Albany.
1886	James McCann	Utica.
1887	James Geddes*	Rochester.
1888	W. A. Wadsworth	Elmira.
1889	James Wood	Albany.
1890	James Wood	Syracuse.
1891	O. B. Potter	Syracuse.
1892	O. B. Potter	Syracuse.

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* Deceased.

LIFE MEMBERS.

A.

Abbott, Edward A., Boston, Mass.
Abbott, Samuel J., Syracuse.
Abell, L. W., Baldwinsville.
Abell, Flavel A., Syracuse.
Abernethy, Charles; New York.
Acker, Victor A., Shelby Centre.
Acker, Victor A., Jr., Shelby Centre.
Acer, H. Augustus, Medina.
Adams, C. Kendall, Ithaca.
Adams, Ira S., East Aurora.
Adee, Fred W., New York.
Adee, Philip H., New York.
Agan, Patrick H., Syracuse.
Agnew, Alexander M., New York.
Akin, John W., Scipio.
Akin, Elwood S., Scipio.
Allen, Gordon W., Auburn.
Allen, C. L., Floral Park.
Allen, William J., Heuvelton.
Alvord, Henry E., Agricul. College P. O., Md.
Albertson, Silas L., Roslyn, L. I.
Aldrich, A. E., Syracuse.
Aldrich, B. S,, Syracuse.
Allen, E. M., Syracuse.
Ambler, Henry S., Chatham.
Ames, D. T., Syracuse.
Amos, Jacob, Syracuse.
Amsdell, George I., Albany.
Amsdell, T. M., Albany.
Anderson, Lucius, Syracuse.
Andrews, Frank H., Syracuse.
Andrews, J. M., Syracuse.
Andrews, T. E., Syracuse.
Andrews, Charles E., Syracuse.
Andrews, W. R., Fairmount.
Andrus, W. P., Rochester.
Angel, Benjamin F., Geneseo.
Annis, J. Rathbon, Albion.
Anthony, A. G., (M. D.) Warners.
Appleton, Francis H., West Peabody, Mass.
Archer, George W., Rochester.
Arnold, B. G., New York.
Armstrong, C. M., Syracuse.
Armstrong, Thomas, Plattsburgh.
Ashley, Charles, Ogdensburg.
Atherton, Edward D., Syracuse.
Atkinson, William, Syracuse.
Atwater, Dwight, Elmira.
Averell, William J., Ogdensburg.
Avery, Ralph H., Canastota.
Auer, M., Syracuse.

B.

Babcock, Hiram W., Fleming.
Babcock, Isaac H., Lockport.
Babcock, John D., Syracuse.
Babcock, Samuel D., New York.
Babcock, S. B., Fairmount.
Bachtold, John, Syracuse.
Bacon, Samuel N., Albany.
Badger, G. F., New York.
Badger, H. M., Elmira.
Bagg, James L., Syracuse,
Bailey, Isaac H., New York.
Bailey, Nathaniel P., New York.
Bain, Alonzo, Kennedy.
Baird, David, Springfield Centre.
Baker, Aug. D., Aurelius.
Baker, Aaron Y., Hammondsport.
Baker, B. F., Hoosick Falls.
Baker, B. M., Rochester.
Baker, C. V., Cedar Hill.
Baker, Fisher A., Yonkers.
Baker, Hiram, Cicero.
Baker, Hiram W., Syracuse.
Baker, John H,, Aurelius.
Baker, I. V., Jr., Comstock's Landing.
Balcolm, Uri, 2027 Michigan avenue, Chicago, Ills.

Baldwin, Anson, Yonkers.
Baldwin, B. F , Albion.
Baldwin, W. A., Wellsburgh.
Ball, Calvin S., Syracuse.
Banks, A. Bleecker, Albany.
Banks, John, Bainbridge.
Banning, Walter E., Syracuse.
Bannister, Henry W., Syracuse.
Barber, James J., Syracuse.
Barclay, Robert C., Cazenovia.
Barker, J. W., Syracuse.
Barker, Louis J., Syracuse.
Barlow, A. G., North Ridgeway.
Barlow, E. D., North Ridgeway.
Barnard, Charles E., Utica.
Barnett, Abraham, Albany.
Barnes, George M., Syracuse.
Barney, C. S., Milford.
Barnum, W. S. Syracuse.
Barrett, James R., ———,
Barry, Thomas G., New York.
Barry, Wm. C., Rochester.
Bassett, Charles B., Walton.
Batcheler, Geo. S., Saratoga Springs.
Baumer, Francis, Syracuse.
Baumgras, Julius, Syracuse.
Beach, G. A., Medina.
Beckwith, Dwight S., Albion.
Belden, James J., Syracuse.
Belden, A. J., Syracuse.
Belden, J. M., Syracuse.
Beley, Fred., Syracuse.
Bell, David K., West Brighton.
Bell, John H., West Brighton.
Benedict, Thomas E., Ellenville.
Benham, E. M., Hopewell Center.
Benham, Murray, Hopewell Center.
Benham, A. B., Dryden.
Bennett, James O., Syracuse.
Bennett, Miles C., Big Flats.
Bennett, J. M., Weedsport.
Bentley, Henry J., Horseheads.
Best, William L., Ogdensburg.
Bennett, J. B., Camillus.
Bibbins, W. S., Weedsport.
Bibbins, J. W., Weedsport.
Bicknell, J. Y., Buffalo.
Bidwell, Charles H., Rochester.
Bidleman, Charles, Albion.
Bill, James R., Ogdensburg.
Binsse, Louis, New York.
Birge, James C., Heuvelton.
Bigelow, Otis M., Baldwinsville.
Bigelow, Payn, Baldwinsville.
Bingham, A. W., Van Buren.
Bingham, R. M., Rome.
Bishop, Geo. A., Syracuse.
Bissell, George N., Milford.
Black, J. W., Syracuse.
Blanchard, J. H., Buffalo.
Blessing, Fred. S., Slingerlands.
Blust, Charles, Syracuse.
Blodgett, F. H., Syracuse.
Boardman, H. E., Rochester.
Boardman, Truman, Trumansburgh.
Bogert, M. D., Blainesville, Neb.
Bogue, Nelson, Batavia.
Bondy, Joseph, Syracuse.
Bonta, F. M., Syracuse.
Bostwick, E., Albany.
Bostock, E., New York.
Boughton, Chauncey, Waterford.
Bowditch, Edward, Albany.
Bowen, H., Medina.
Bowen, Henry C., Brooklyn.
Bowen, Franklin, Highland.
Bowen, J. M. Weedsport.
Bowen, O. F., West Lowville.
Bowen, S. R., Rhinebeck.
Bowen, Walter, Flushing.
Boyce, Keer, Flushing.
Boyce, Guy, Syracuse.
Boyce, Wm., New York.
Boyd, W. B., Syracuse.
Boyington, H. H., Brewerton.
Boynton, Major E. C., Newburgh.
Bowe, J. C., Syracuse.
Bradford, William, New York.
Bradley, Geo. C., Watertown.
Bradley, W. C., Syracuse.
Bradley, C. C., Syracuse.
Bradley, Geo. H., Lake Road.
Brayton, W. C., Syracuse.
Brandow, A. S., Albany.
Brainard, E. D., Albany.
Breed, C. H., Medina.
Brees, Wm., DeKalb.
Breese, Henry G., Hoosick.
Breese, Ira V., Horseheads.
Breese, Ulysses, Horseheads.

Breese, Wellington E., Horseheads.
Brewster S. Edward, Rochester.
Bridge, S. D., Canton.
Briggs, A. J., Moscow.
Briggs, Geo. B., New York city.
Briggs, E. W., Medina.
Brill, Gerow D. Poughquag.
Bristol, Lewis M., DePeyster.
Bristol, Wheeler H., Owego.
Britton, Israel E., Syracuse.
Brizee, Tunis, Pittsford.
Brodie, Hugh, Rural Hill.
Brodie, Wm. A., Geneseo.
Brooker, John B., Hammond.
Brower, F. C., Syracuse.
Brown, Alexander, New York.
Brown, Almer J., Jeddo.
Brown, Clarence G., Syracuse.
Brown, Geo. D., Syracuse.
Brown, Geo. H., Millbrook.
Brown, George, Gaines.
Brown, Jacob, Syracuse.
Brown, James H., Holland Patent.
Brown, Josiah K., Holland Patent.
Brown, James P., Utica.
Brown, Jessie, Jr., Jamaica.
Brown, John, Webb's Mill.
Brown, J. Carter, Providence, R. I.
Brown, John Crosby, New York.
Brown, J. Emery, Oneida.
Brown, J. Tilden (M. D.), Bloomingdale.
Brown; Lewis B., New York.
Brown, Lewis M., New York.
Brown, Sidney, Ogdensburg.
Brown, William Smith, New York.
Bruen, Alexander M., Scarsdale.
Brundage, A. C., Bath.
Bryce, William, New York.
Bryden, Robert, New Hartford.
Buchanan, Charles J., Albany
Buck, A. H., Lowville.
Buckley, Thomas, Albany.
Buckley, Wade, Port Jervis.
Budd, S. Emory, Newark.
Bulkley, D. A., Williamstown, Mass.
Burch, H. M., New York.
Burbank, George W., Binghamton.
Burden, I. Townsend, Troy.
Burden, James A., Troy.
Burdick, Orrin H., Auburn.
Burnhans, H. N., Syracuse.
Burkhalter, Charles, New York.
Burlew, James B., Union Springs.
Burr, William M., Cazenovia.
Burr, J. H. Ten Eyck, Cazenovia.
Burrill, H. L., Weedsport.
Burns, Willis B., Syracuse.
Burritt, O. W., Weedsport.
Burt, Mrs. Mary T., New York.
Butler, E. K., Syracuse.
Butler, Charles, New York.
Butterfield, Daniel, New York.
Butterfield, John. Jr., Utica.
Button, R. D., Cottons.
Butts, George, Manlius.

C.

Cady, Charles, Dryden.
Cady, John E., Freeville.
Cameron, R. W., New York.
Camman, Herman H., New York.
Camp, Hugh N., New York.
Campbell, Elias B., Poughkeepsie.
Campbell, John, New York.
Campbell, John S., New York Mills.
Candee, Daniel, Syracuse.
Canfield, Clarance W., Athens, Pa.
Cannon, LeGrand B., New York.
Cantwell, Thomas W., Albany.
Carl, Darwin L., Cherry Creek.
Carl, Ira, Weedsport.
Carpenter, Franklin, Gansevoort.
Carpenter, Isaac S., Shekomeko.
Carpenter, James, Wellsburgh.
Carr, Samuel M., Elmira.
Carter, David K., Rochester.
Carter, George F. Syracuse.
Carter, John S., Syracuse.
Cary, H. N., Whitesboro.
Case, Henry J., Auburn.
Case, Thomas R., Sinsbury, Conn.
Catlin, Geo. L., Apalachin.
Caldwell. Fordyce S. Brooklyn.
Caldwell, J. Wallace, Brooklyn.
Caldwell, William, Syracuse.
Caywood. Chauncey C., Weedsport.
Chadderdon, Isaac, Weedsport.
Chaffee, Burritt, Syracuse.
Chaffee, James E., Heuvelton.
Chamberlain, Frank O., Canandaigua.

Chamberlain, Olcott A., Richfield.
Chandler, Harvey G., Ogdensburg.
Chandler, W. Y., Ogdensburg.
Chapin, Joseph Y., Ogdensburg.
Charles, Richard S., Angelica.
Chambers, James, Scarsdale.
Chapman, Crocker C., Hoosic Falls.
Chapman, C. E., Peruville.
Chapman, E. E., Syracuse.
Chapman, Frank B., Syracuse.
Chapman, Hiram, Warners.
Chase, A. C., Syracuse.
Chase, Carleton A., Syracuse.
Chase, John L., Johnson's Creek.
Chase, R. G., Geneva.
Chatfield, A. F., Albany.
Chauncey, Henry, Jr., New York.
Chester, E. S., Albion.
Cheeney, Walter W., Manlius.
Chipman, Henry W., Chicago.
Chittenden, S. B., New York.
Chrystie, Albert N., Havre, France.
Church, Perry, Knowlesville.
Church, Richard, Belvidere.
Church, Seth R., Syracuse.
Clark, B. Wheaton, Lockport.
Clark, E. J., East Onondaga.
Clark, Franklin, Albion.
Clark, J. Henry, Elmira.
Clark, James H., Port Chester.
Clark, Judson H., Elmira.
Clark, Leander, Newburgh.
Clark, Silas S., Potsdam.
Clark, William J., Horseheads.
Clark, C. P., Syracuse.
Clarkson, T. Streathfield, Jr., Potsdam.
Cleveland, Newcomb, Albany.
Clough, T. T., Syracuse.
Coakley, Daniel, Syracuse.
Coakley, Michael, Syracuse.
Coan, Ezra T., Albion.
Coan, Luke, Westmoreland.
Coates, George H., Elmira.
Coe, R. E., Kirkville.
Cobb, Emory, Kankakee, Ill.
Cobb, A. H., Fairport.
Cocks, Isaac H., Old Westbury.
Coggswells, Ledyard, Albany.
Coggswell, P. J., Rochester.
Cogswell, William L., New York.
Coit, John M., New York.
Cole, Charles C., Elbridge.
Cole, J. Stewart, Rochester.
Cole, Noah H., Mendon.
Cole, Walter, Batavia.
Colebrook, William H., Syracuse.
Colegate, Robert, New York.
Collender, Hugh W., New York.
Collins, A., Rochester.
Collins, James E., Elmira.
Combs, J. S., Stafford.
Comstock, S. L., Syracuse.
Comstock, Geo. F., Jr., Syracuse.
Conkey, Charles N., Canton.
Conyngham, Thomas, Morley.
Converse, Frank A., Woodville.
Converse, George H., Woodville.
Converse, James F., Woodville.
Cook, Elisha, Poplar Ridge.
Cook, Herbert J., South Granville.
Cook, S. H., Jr., Camillus.
Cook, Frederick, Rochester.
Cooke, Rolland C., Whitehall.
Cooley, A. H., Little Britain.
Cooledge, Charles, Phelps.
Coon, Morrell, Leonardsville.
Coon, S. Mortimer, Oswego.
Coonley, Irving, Cicero.
Cooper, James F., Albany.
Cooper, Joseph M., New York.
Corbett, Lee C., Watkins.
Corbett, J. W., Watkins.
Cornell, Alonzo B., Yonkers.
Cornell, Charles Ezra, Ithaca.
Cornell, Joseph M., Albion.
Cornell, Franklin C., Ithaca.
Cornell, O. H. Perry, Ithaca.
Corning, Erastus, Albany.
Corning, Erastus, Jr., Albany.
Cossitt, Davis, Onondaga.
Costello, John H., Syracuse.
Cotton, G. G., Syracuse.
Cox, James W., Jr., Albany.
Cox, W. W., Syracuse.
Cox, William B., Baldwinsville.
Covell, Chas. C., Syracuse.
Covert, E. B., Syracuse.
Colville, Orson, Syracuse.
Cowan, John, Lakeland.
Cowie, William, Syracuse.
Cramer, Olen, Balwinsville.

Crandall, William De Loss, West Edmeston.
Crandall, E. J., Clifton Springs.
Crapo, John M., Albany.
Creede, William F., Malone.
Crofoot, James R., Constableville.
Cronin, J. W., Syracuse.
Crossman, H. D., Sennett.
Crosman, C. W., Rochester.
Crozier, William, Northport.
Crysler, Corydon, Syracuse.
Cullinan, P. W., Oswego.
Cunningham, Jas. B., White Plains.
Curtis, Charles E., Ithaca.
Curtis, Dewitt C., Horseheads.
Curtis, D. W., Syracuse.
Curtis, Edward F., Syracuse.
Curtis, E. L. B., Danby.
Curtis, E. R., Binghamton.
Curtis, Gates, Ogdensburg.
Curtis, George, Elmira.
Curtis, John P., Marcellus.
Curtis, N. Martin, Ogdensburg.
Cuthbert, William, Hammond.

D.

Daboll, Charles E., Memphis.
Dagge, Edward, Rochester.
Dallas, Dr. A. J., Syracuse.
Danforth, Elliot, Bainbridge.
Daniels, Wm. H., Ogdensburg.
Danziger, I. Henry, Syracuse.
Darrow, M. C., Syracuse.
Dater, James, New York.
Dater, Philip, New York.
Davies, William H., Ogdensburg.
Davis, J. C. Bancroft, Washington, D. C.
Davison, G. Howard, Millbrook.
Davison, Henry J., New York.
Davey, Edward H., Medina.
Dawley, F. E., Syracuse.
Dean, Lorenzo D., Ogdensburg.
De Angelas, W. W., Holland Patent.
Decker, David, Elmira.
Decker, Peter L., Cherry Creek.
Dederick, Levi, Albany.
Dederick, Peter K., Albany.
DeForest, D. W. C., Defreestville.
DeForest, Jacob J., Duanesburgh.
Degraff, Alfred, Fonda.
Degraff, James, Highland.
DeGrauw, Aaron A., Jamaica.
DeLong, M. B., Utica.
Dempsey, Samuel, Syracuse.
DeLuze, Charles H., Pelham.
DeLuze, Francis O., New York.
DeLuze, Louis P., Pelham.
DeWitt, Martin C., Skaneateles.
Dennistoun, William, New York.
Deuel, Stephen T., Little Rest.
Dewey, C. D., Batavia.
DeWitt, Abram V., Albany.
Dey Ermand, William, Albany.
DeWitt, Edward, New York.
Dexter, H. W., Newport.
Denison, Frank P., Syracuse.
Denniston, Augustus, Washingtonville.
Devereaux, Alvin, Deposit.
Dickey, Charles D., New York.
Dickinson, E. D., Syracuse.
Dickinson, Austin R., Syracuse.
Didama, John E., Medina.
Didama, Justus E., Medina.
Dike, James P., New York.
Dinsmore, Wm. B., Staatsburg.
Diven, Alexander S., Elmira.
Diven, Eugene, Elmira.
Doane, Rev. William C., Albany.
Docharty, Jas. B., Albany.
Dodge, Henry, New Hartford.
Dodge, Wm. E., New York.
Doelker, George, Albany.
Doncaster, Daniel, Long Island City.
Donnelly, P. H., Cazenovia.
Dorchester, Robt. E., Marcellus.
Dounce, Wm. J., Elmira.
Downer, Chas., Utica.
Downer, Ezra, Jr., Syracuse.
Downer, Wm. W., Baldwinsville.
Downs, Arthur L., Mattituck.
Doyle, Dr. Gregory, Syracuse.
Doyle, Wm., Albany.
Duer, John, New York.
Dunfee, John, Syracuse.
Dunning, W. D., Syracuse.
Durant, Edward A., Jr., Albany.
Dwight, Henry D., Syracuse.
Duffy, Hugh, Cortland.
Dunn, Thos., Syracuse.

Dunning, David M., Auburn.
Durston, J. F., Syracuse.
Dutcher, John B., Pawling.
Dutcher, J. Gerrow, Pawling.
Dyer, Marshall R., Pompey.

E.

Earle, Orrin R., Sandy Creek.
Earll, A. J., Skaneateles.
Earll, J. Horatio, Skaneateles.
Eastman, Wm. L., Ovid.
Eastman, A. R., Waterville.
Eastman, B. N., Syracuse.
Eaton, Jas. H., Syracuse.
Ebeling, F. H., Syracuse.
Eckenberger, Haman, Elmira.
Ecker, Geo. D., Solvay.
Ecker, I. J., Belle Isle.
Eddy, E. J., Syracuse.
Eddy, John W., Saratoga.
Edwards, Ira, Holly.
Ellis, Earl E., Camillus.
Ellis, Edwin, Albany.
Ellis, James, Syracuse.
Ellsworth, Charles E., Hammond.
Ellsworth, Rich. B., Canton.
Ellsworth, S. H., Starkville.
Elwanger, George, Rochester.
Eli, Francis, Deansville.
Ely, L. D., Rochester.
Emmett, Thos. Addis, Astoria.
Emmons, F. L., Syracuse.
Erhard, Frederick, Syracuse.
Erwin, E. H., Painted Post.
Erwin, George Z., Potsdam.
Erwin, Samuel E., Morley.
Evans, John H., New York.
Everingham, F. M., Syracuse.
Everson, Charles B., Syracuse.

F.

Faile, Charles V., New York.
Faile, Thomas H., Jr., New York.
Fairchild, Abram, Syracuse.
Fairchild, Charles A., Syracuse.
Fairchild, M. B. (M. D.), Syracuse.
Farrington, Barney, Syracuse.
Farrington, Harvey, New York.
Faulkner, Lester B., Dansville.
Fage, William, Syracuse.
Fancher, Len., Syracuse.
Farrell, John H., Albany.
Fell, John, Elmira.
Fellows, J. P., Syracuse.
Fellows, Benjamin, Chili.
Fellows, George B., Unadilla.
Felton, Benjamin F., Tonawanda,
Fenner, F. W., Baldwinsville.
Fenner, Seth, East Aurora.
Fenton, H. N., Morley.
Ferguson, Amos, Utica.
Fergusson, Mrs. Mary D., Syracuse.
Ferris, G. C., DeWitt.
Ferris, John, Moresville.
Fesser, Edward, New York.
Fish, Liberal C., Laporte, Iowa.
Fisher, Conrad, Jr., Manlius Station.
Fisher, John C., Madrid.
Fisk, Charles H., Syracuse.
Fisk, Sanford N., Pine Valley.
Fitzgerald, Lawrence J., Cortland.
Flagler, Benjamin, Suspension Bridge.
Fleming, Oliver, Oneonta.
Fleetham, Daniel W., Heuvelton.
Flood, Thomas S., Elmira.
Floto, Ernst, New York.
Flynn, G. D., Union Springs.
Fondey, William T., New York.
Ford, Henry A., Westerlo.
Ford, William, Big Flats.
Ford, William F., West Davenport.
Forrey, John H., Syracuse.
Forrester, W. E., Hammond.
Foster, D. Henry (M. D.), Clifton Springs.
Foster, Edmund B., San Francisco, Cal.
Foster, Isaac H., Baldwinsville.
Foster, Nat. W., Riverhead.
Fowler, William C., Warsaw.
Fox, Eli (M. D.), Mohawk.
Fox, P. W., Morley.
Frame, William, Flushing.
Francklyn, Reginald, New York.
Francis, Daniel J., Syracuse.
Frank, Samuel R., Syracuse.
Frank, Nathan, Ogdensburg.
Frazer, Fred., Syracuse.
Frazer, George K., Syracuse.
Freeman, Isaac, Bemis Heights.
Freeman, John G., Lockport.

Freeman, George, Syracuse.
Fredericks, John S., Syracuse.
French, G. G., Mexico.
French, Henry C., Wells, Penn.
French, J. D. W., North Andover, Mass.
French, Mansfield J., Syracuse.
Friedel, William, Syracuse.
Frothingham, James H., Brooklyn.
Frothingham, William M. (M. D.), Washington Heights.
Fugett, J. M., Baldwinsville.
Fuller, Harrison, Adams Centre.
Fulton, Levi S., Rochester.
Fulton, Rufus K., Morley.

G.

Gaffers, Jeremiah, Newtonville.
Gage, A. S., Homer.
Gale, Lee, Syracuse.
Gallup, W. H., Marcellus.
Gandy, Shephard, New York.
Gardenier, A. B., Niverville.
Gardner, Emmet V. R., Westtown.
Garnett, W. B., Syracuse.
Gastwood, John, Syracuse.
Gates, D. G., Chittenango.
Gates, F. H., Chittenango.
Gaylord, Grenville M., Fairmount.
Geddes, George, Fairmount.
Geer, Robert, Albany.
Gere, George C., Syracuse.
Gere, Irving N., Syracuse.
Gere, William A., Belle Isle.
Gere, W. C., Syracuse.
Gibbs, J. E., Watertown.
Gibbs, C. M., Syracuse.
Gibballe, Isadore H., Medina.
Gibson, Richard, Delaware, Ont.
Gibson, William L , Elmira.
Gifford, L. D., Shelby Centre.
Gillett, Harris, Sidney.
Gillett, William J., Syracuse.
Gilbert, B. D., Clayville.
Gilbert, William H., Richland.
Gilbert, J. M., Syracuse.
Ginty, J. B., Syracuse.
Gleason, Lucius, Syracuse.
Gleason, R. S., West Troy.
Gleason, W. A., Liverpool.
Glover, John H., New York.
Goldsmith, R. F., Peconic.
Goodman, R., Lenox, Mass.
Goodwin, Wendell, New York.
Gordenier, John, Oswego.
Gordon, Robert, New York.
Gore, W. E., Richville.
Gorham, Emmett, Elbridge.
Gorham, William B., Camillus.
Gorman, Charles, Medina.
Goodrich, I. O., Syracuse.
Gould, David G., Quaker Hill.
Gould, James F., Warners.
Grace, Thomas J., Syracuse.
Graham, George, Weedsport.
Graney, E. M., Syracuse.
Granger, Foster O., Saratoga Springs.
Grant, Israel P., Horseheads.
Grant, Alexander, Jr., Syracuse.
Grassman, Jacob, Syracuse.
Graves, Nathan F., Syracuse.
Gray, William H., Utica.
Gray, David, Utica.
Gray, John D., Syracuse.
Green, Andrew, Syracuse.
Green, Andrew H., New York.
Green, Charles, A., Clifton.
Green, Ira W., East Avon.
Green, J. F., Baldwinsville.
Green, N. H., Batavia.
Green, Thomas D., Syracuse.
Green, Willis H., Belleville.
Greene, Everett, Brooklyn.
Greenleaf, Halbert S., Rochester.
Greenway, John, Syracuse.
Greer, Thomas H., Albany.
Gregor, David, Hammond.
Gregory, H. C., Unadilla.
Gridley, O. B., Deansville.
Griffin, Daniel S., Heuvelton.
Griswold, Alpha D., Southport.
Groesbeck, E. A., Albany.
Gross, James H., Albany.
Gunn, Simeon W., Kirkland.

H.

Haberle, William H., Syracuse.
Haberle, Frank B., Syracuse.
Haberle, Charles, Syracuse.
Habirshaw, W. M., New York.

Habirshaw, William, New York.
Hagan, William E., Troy.
Haight, Charles C., New York.
Hale, E. R., Elbridge.
Hall, Charles C., Syracuse.
Hall, F. G., Elmira.
Hall, John B., Canandaigua.
Hall, Pelig, New York.
Hall, George, Ogdensburg.
Hall, W. W., Gouverneur.
Hallett, J. S , New York.
Hallock, Stephen, Albion.
Hallock, William, Albion.
Hallock, Caleb, Northville.
Halloran, Patrick, Syracuse.
Hamburger, David J., Syracuse.
Hamlin, C. J.. Buffalo.
Hamilton, William, Westmoreland.
Hamilton, Robert C. Canton.
Hamilton, Levi T., Weedsport.
Hamilton, William, Caledonia.
Hamilton, Wm. A., Albany.
Hand, Thomas J., Sing Sing.
Hard, Henry M., Lyndonville.
Harder, Minard, Cobleskill.
Hardy, Don P., Auburn.
Hardy, Elias, Auburn.
Harrison, George D. L., New York.
Harrison, Richard M., New York.
Harrison, Thomas L., Morley.
Harrison, Richard, Canton.
Harrison, Wm. B., New York.
Harmon, John S., Chatham.
Harmon, John, Ogdensburg.
Harmon, A. B., Weedsport.
Harris, Richard D., New York.
Harris, Julius, Ridgeway.
Hartman, L. B., North Sparta.
Hartshorne, George, Rahway, N. J.
Hart, Charles H., Syracuse.
Hart, E. Kirk, Albion.
Harwood, J. Marville, Hess Road Station.
Haskell, William H. Albany.
Haskins, Marshall B., Volney.
Hasbrouck, C. L., Syracuse.
Hasbrouck, Lewis, Ogdensburg.
Hathaway, J. R., Cortland.
Hansom, L. S., Syracuse.
Hanchett, Chas. G., Syracuse.
Hatch, Lewis M., Ashville, N. C.
Houpt, Henry H., Dryden.
Haven, John, Fort Washington.
Havens, Charles H., Benton Centre.
Hawks, E. B., Wells Bridge.
Hawkins, E. T., Syracuse.
Hawley, Miss Estelle F., Pittsford.
Hawley, Frank W., Pittsford.
Hawley, Geo. W., Warners.
Hawley, J. Dean, Syracuse.
Haxton, Wm. H., Green Haven.
Hay, M. L., Bell Isle.
Hayden, S. C., Syracuse.
Hayhoe, James H., Syracuse.
Hayward, Edwin S., Rochester.
Hazelton, B. F., Jamestown.
Haynes, E. L., Haynes.
Heath, Allen S., New York.
Heaton, Charles E., Baldwinsville.
Heffron, D. S., ———.
Henderson, Alex., Syracuse.
Henderson, J. M., Syracuse.
Hendrick, James, Albany.
Hendricks, Francis, Syracuse.
Hendricks, Rev. Thos. A., Union Springs.
Henry, George S., New York.
Herrick, John H., New York.
Herman, John, Ogdensburg.
Heminan, Carlish B., Ogdensburg.
Hess, Elmon, West Somerset.
Hexamer, Frederick M., New York.
Hibbard, Charles, Old Westbury.
Hicks, Benjamin D., Old Westbury.
Hier, John P., Syracuse.
Higbie, Alanson, Fairport.
Higgins, Alfred, Syracuse.
Hill, David, Albany.
Hill, D. Munro, Elbridge.
Hill, Albert J., Medina.
Hilton, Albert B., 7 West Thirty-fourth street, New York.
Hilton, James, New Scotland.
Hilton, Joseph, Jr., New Scotland.
Hinkley, David J., Bookfield.
Hinsdale, Alfred L., Belle Isle.
Hiscock, Frank H., Syracuse.
Hiscock, Albert K., Syracuse.
Hitchcock, C. B., Cortland.
Hitchcock, F. B., Cortland.
Hitchcock, Jas. B., Syracuse.
Hoadley, Luther, Harwinton, Conn.

Hoag, Claudius L., Lockport.
Hoag, Harvey, Medina.
Hoag, Ira W., Pawling.
Hoag, Jonathan, Tomhannock.
Hodge, John, Lockport.
Hodges, F. B., Syracuse.
Hoe, Peter S., Tarrytown.
Hoffman, George W., Elmira.
Hoffman, L. M., Union Club, New York.
Hoffman, Charles L., Syracuse.
Holbert, George W., Elmira.
Holbert, Joseph E., Chemung.
Holbert, Joshua S., Chemung.
Holcomb, Geo. O., Troy, Pa.
Holden, Edw. C., McGrawville.
Holden, H. S., Syracuse.
Holdridge, Daniel D., Medina.
Holmes, A. B., New York.
Holt, Leander A., Potsdam.
Hood, Silas M., Knowlesville.
Hooker, Horace M., Cooperstown.
Hooker, H. C., Syracuse.
Hope, J. L., Madison, N. J.
Hopkins, Hiram P., Buffalo.
Hopkins, Lucius, New York.
Hopkins, Obadiah, New York.
Hopkins, William R., Utica.
Hopkins, William E., Syracuse.
Horton, Alson W., Syracuse.
Hotaling, Albert T., Baldwinsville.
Hotaling, G. H., Baldwinsville.
Hotchkin, Samuel, Elmira.
Hotchkin, Alfred J., Syracuse.
Houghton, J. Chandler. Ogdensburg.
Houghton, W. J., ———.
Housman, Chas. H., Valatie.
Howatt, Gerald, Mountainville.
Howell, Benjamin H., New York.
Howell, F. Bowen, Medina.
Howell, H. B., Medina.
Howe, Squire, Geneva.
Howe, Lewis B., Jordan.
Howe, Walter, New York.
Howe, Edgar D., Weedsport.
Howland, Obadiah, Auburn.
Howlett, F. C., Syracuse.
Howlett, Alfred, A., Syracuse.
Howlett, A. Ames, Syracuse.
Howard, E. S., Holly.
Hoxie, Samuel L., Leonardsville.
Hoxie, Solomon, Whitesboro.
Hoyt, Alfred M., New York.
Hoyt, Lucius B., Albany.
Hoyt, D. C., Saratoga Spa.
Hoyt, Frank D., Mottville.
Hubbard, Charles, Syracuse.
Hubbard, Geo. C., Cortland.
Hubbell, Eli S., Elmira.
Hubbs, Alexander H., Syracuse.
Hughson, Kincaid A., San Francisco.
Hull, Benjamin L., Syracuse.
Hull, Sylvester, Horseheads.
Hulbert, Earnest M., Cortland.
Humphry, James R., Ogdensburg.
Humbert,, Chas. E., Syracuse.
Hunt, Charles, Delphi.
Hunt, James, Syracuse.
Hunter, J. C., Sterling Valley.
Hunter, John, Sterling,
Hunter, Thomas, Sterling.
Hun, Marcus T., Albany.
Hurd, Luther D., Holley.
Hurlburt, H. A., New York.
Hurlbut, Wm. H., New York.
Hutchins, Lewis W., Bowen's Corners.
Hutchinson, Charles W., Utica.
Hutchinson, Almanzor, Gaines,
Hyde, Salem, Syracuse.

I.

Ingalsbe, Grenville M., Sandy Hill.
Ingalsbe, H. H., Hartford.
Ingalsbe, Jas. L., South Hartford.
Ingalsbe, Milo, South Hartford.
Ingalsbe, Royal, South Hartford.
Ingersoll, George, Fonda.
Irvin, Richard, New York.
Irvin, Richard, Jr., New York.
Irving, Charles, Peekskill.
Irving, Lewis M., New York.
Isham, Wm. B., New York.
Ives, F. O., South Easton.

J.

Jackson, George, Albany.
Jackson, J. Carl, Lockport.
Jackson, Thos., Jr., Syracuse.
Jacobs, H. A., Syracuse.
Jacobson, Nathan R., Syracuse.
James, Edward C., New York.

James, Roscoe C., Hoosick.
James, Sylvester B., Hoosick.
Jaques, Hiram M., Wright's Corners.
Jaques, O. S., Wright's Corners.
Jay, John, Katonah.
Jeffrey, E. L., Lockport.
Jenkins, Jonathan H., Elmira.
Jennings, Dwight P., Syracuse.
Jerome, Henry, Fairmount.
Jerome, J. S., Fairmount.
Jewett, Henry C., Buffalo.
Johnson, Benjamin W., Albany.
Johnson, Bradish, New York.
Johnson, Chapman L., Albany.
Johnson, George W., Geneva.
Johnson, Henry, Belle Isle.
Johnson, Hugh, DePeyster.
Johnson, H. B., Syracuse.
Johnson, H. H., Rural Hill.
Johnson, Jas. Boorman, New York.
Johnson, I. S., Canaan Four Corners.
Johnson, Samuel Wm., Mamaroneck.
Johnson, Wm. H., Albany.
Johnson, Chas. J., Syracuse.
Johnson, Hector B., Syracuse.
Johnson, W. J., Little Utica.
Johnston, Wm. S., Poughkeepsie.
Jones, Allen M., Fairmount.
Jones, Charles, Geneseo.
Jones, Frank F., New York.
Jones, Harvey L., Ogdensburg.
Jones, Ira A., Breesport.
Jones, John W., Elmira.
Jones, Morris R., Rome.
Jones, Richmond, Elmira.
Jones, R. W., Syracuse.
Jones, Wm. B., Albany.
Jones W. Martin, Rochester.
Jones, Edward F., Binghamton.
Jones, L. T., Syracuse.
Joy, Edward, Syracuse.
Judd, H. H., Syracuse.
Judson, E. B., Syracuse.
Juliand, Joseph, Bainbridge.

K.

Kanaley, J. D., Weedsport.
Kane, W. H., New York.
Kau, Michael, Boonville.
Kaufman, John S., Syracuse.
Keays, Edward, Albany.
Keeler, Edw. Elmer, Syracuse.
Keeler, Wm. H., Albany.
Keese, Samuel T., New York.
Kellogg, John M., Ogdensburg.
Kellogg, O. J., Camillus.
Kellogg, O. U., Cortland.
Kelly, James M., Baldwinsville.
Kelly, Patrick, West Troy.
Kelly, William, Jr., New York.
Kemble, Peter, New York.
Kemble, Richard L., New York.
Kemble, Gouverneur, New York.
Kemble, Gouverneur, Jr., New York.
Kennedy, D. M., Syracuse.
Kennedy, R. Lenox, New York.
Kennedy, Bradford, Syracuse.
Kennett, J. R., Syracuse.
Kent, Geo. B., Syracuse.
Kent, H. J., Palmyra.
Kent, James, New York.
Kent, Edwin C., New York.
Kent, William, New York.
Kenyon, G. M., Syracuse,
Kenyon, Geo. G., Syracuse.
Kenyon, Jacob C., Baldwinsville.
Kenyon, Jno. S., Syracuse.
Ketchum, Morris, New York.
Kevand, David, Weedsport.
Kieffer, Chas., Syracuse.
Kieffer, Jos. D., Syracuse.
Kidder, K. P., Burlington, Vt.
Kimball, Wm. E., New York.
Kimball, W. H., Canton.
Kimberly, Albert, Solvay.
Kincaid, Jas. C. P., Utica.
Kincaid, J. F., Syracuse.
King, John A., Jr., Great Neck.
King, Rufus H., Albany.
Kingsford, John P., New York.
Kinney, C. L., Cortland.
Kirby, William A., Auburn.
Kirk, George Wistar, New York.
Kirk, Wm. B., Syracuse.
Kirkpatrick, Wm., Syracuse.
Klock, E. M., Syracuse.
Knapp, Edward J., Jr., New York.
Knapp, Edgar, Stanfordville.
Knapp, Ezra B., Skaneateles.
Knapp, P. S., Syracuse.
Kneeland, John H., New York.

Knickerbocker, David M., Albany.
Knickerbocker, Geo. H., Pine Plains.
Knowles, Charles R., Albany.
Kohles, Michael, Syracuse.
Krause, John, Clarence Hollow.

L.

Labishiner, Emmanuel, New York.
La Homadieu, W. H., Medina.
Lake, John W., Medina.
Lamb, Anthony, Syracuse.
Lambert, Wm. G,, Jr., Chappaqua.
Lamont, Edward W., Cobleskill.
Lamphere, J. H., Weedsport.
Ladd, J. M., Victor.
Lanehart, Geo. D., Auburn.
Lang, Frank, Syracuse.
Langdon, Charles J., Elmira.
Langworthy, Hollum, West Edmeston.
Langworthy, Irwin, South Brookfield.
Lanigan, Daniel M., Syracuse.
Lansing, Charles, Lansingburgh.
Lansing, J. E., Albany.
Lansing, J. Townsend, Albany.
Larned, Geo. C , Syracuse.
Larwood, Thos. W., Albany.
Lathrop, Ariel, San Francisco, Cal.
Lattener, Nicholas, Syracuse.
Lattin, Frank H., Albion.
Lawrence, A. B., Warsaw.
Lawrence, DeWitt C., New York.
Lawrence, F. N., Flushing.
Lawrence, Lewis H., Utica.
Lawyer, Luther, Watertown.
Lawler, John, Auburn.
Lay, Frederick W., Greece.
Leach, Almon, Utica.
Leech, Thos. J., Syracuse.
Leavitt, Henry S., New York.
Ledyard, L. W., Cazenovia.
Ledyard, R. F. H., Cazenovia.
Lee, John R., Buffalo.
Lee, William H., New York.
Lee, Wm. H. L., New York.
Leland, Charles E., Harrisburg, Pa.
Leonard, Geo. B., Syracuse.
Leonard, Moses G., Rockland Lake.
Leonard, Daniel, Albany.
Leonard Geo. S., Syracuse.
Leverich, Charles D., Newton.
Leverich, Charles P., New York.
Leverich, S. Duncan, Kidder's Ferry.
Levey, John P., Lyndonville.
Lewis, A. F., Syracuse.
Lewis, C. Whitney, Hopewell.
Lewis, David B., New York.
Lewis, John G., Frankfort.
Lewis, Oscar J., Schodack Centre.
Lewis, O. S., Knowlesville.
Lewis, Edward, Syracuse.
Lexow, Rudolph, Nanuet.
Leyden, Hart C., Syracuse.
Liautard, A. F. (M. D.), New York,
Lighton, James, Syracuse.
Lighton, John, Syracuse.
Lindley, John, New York.
Link, John H., Syracuse.
Lipe, Chas. E., Syracuse.
Listman, Chas., Syracuse.
Littel, H. M., Macedon.
Little, Charles W., Albany.
Littlefield, R. M., Afton.
Livermore, Charles F., New York.
Livingston, John Henry, Clermont.
Livingston, Robert, Jr., New York.
Lock, F. D., Buffalo.
Locke, James S., Millport.
Long, E. B., White Plains.
Look, S. J., Louisville, Ky.
Loomis, A. J., Syracuse.
Loomis, H. B., New York.
Loos, Conrad, Syracuse.
Lord, A. H., Ogdensburg.
Lord, H. G., ———.
Loftie, Henry, Syracuse.
Lorillard, L. S., New York.
Lormore, William J., Elmira.
Lough, George, Hartwick.
Lounsbury, John W., Port Chester.
Lowber, Robert W., Middle Falls.
Lowman, F. C., Nichols.
Lowe, Joseph R., Big Flats.
Lummins, J. Maxwell, New York.
Lusk, Stafford S., Victor.
Luther, J. M., Knowlesville.
Luther, Alfred C., Syracuse.
Lyboult, J. H., Camillus.
Lyman, John, Syracuse.
Lynd, George P., Albany.
Lynde, Dolphus S., Canton.
Lyon, Henry, Syracuse.

M.

McCann, George S., Elmira.
McCann, James, Elmira.
McCann, James, Jr., Elmira.
McCann, John, Elmira.
McCarty, Thomas, Albany.
McCarthy, Charles C., Syracuse.
McCarthy, Dennis, Syracuse.
McCarthy, John, Syracuse.
McCarthy, M. J., Syracuse.
McCarthy, Robert, Syracuse.
McChesny, Albert E., Syracuse.
McClure, William H., Albany.
McComb, George T., Lockport.
McCormick, A. J., Medina.
McCormick, Daniel C., Medina.
McCormick, James S., Medina.
McCracken, H. J., Belle Isle.
McDowell, Willis G., Syracuse.
McDowell, John H., Syracuse.
McDougal, C. D., Auburn.
McElroy, John E., Albany.
McFarrand. J. A., Syracuse.
McGowan, Charles G., Elbridge.
McGraw, Joseph, Dryden.
McHarg, Henry K., New York.
McHarg, John W., Albany.
McKenzie, Daniel Morley.
McKinney, James, Albany.
McLennan, P. B., Syracuse.
McMillan, James, Fairport.
McMullen, Walter, Baldwinsville.
McNaughton, Donald, Rochester.
McNab, Rev. William J., Medina
McNamara, John, Shaneateles
McNeill, R. C., Campville.
McNish, Charles W., Ovid.
Macomb, Jacob Navarre, Jr., Branchport.
Madden, A. C., Brockport.
Magone, Daniel, Ogdensburg.
Mager, Geo. J., Cortland.
Mahar, Michael, ———.
Mairs, James W., Schenectady.
Maitland, William C., Fordham
Makeys, E. L., Onondaga Hill.
Malby, George R., Ogdensburg
Mallock, P. J., Caledonia.
Mallory, Jared, Mallory.
Manzer, DeLos, Solvay.
Mann, J. F., Utica.
Manning, James H., Albany.
Mantel, Florian, Syracuse.
Marcy, Henry S., Ballston Springs.
Markham, Wm. G., Avon.
Marks, Frank, Chapinville.
Martin, Frank L., New York.
Martin, Dr. L., Baldwinsville.
Martin, L. King, Ogdensburg.
Martin, William R., New York.
Martyn, Albert T., Canton.
Marvin, Eugene, Warners.
Marvin, Fred. A. Baldwinsville.
Marvin, Geo. W., Warners.
Marvin, James M., Saratoga Springs.
Marshall, Edward, Medina.
Mason, Daniel C., Joliett, Ill.
Mason, John W., Brooklyn.
Mason, L. C., Syracuse.
Mason, S. M., New Hartford.
Masters, Jos. E., Syracuse.
Masterton, Alexander, Boonville.
Masterton, Robert M. Bronxville.
Mather, Andrew E., Albany.
Mather, F. E., New York.
Mather, Joshua, Utica.
Mathewson, James, Onondaga Hill.
Mathewson, J. E., New Berlin Centre.
Mathewson, Park, Detroit, Mich.
Matteson, James M., Jacksonville.
Matteson, O. B., Utica.
Matthews, Charles, West Troy.
Mauran, S. E., White Lake.
Maxon, Thompson V., Adams.
Maxwell, Henry E., Geneva.
Maxwell, Joshau I., Geneva.
Maxwell, Thompson C., Geneva.
Maxwell, W. T., Collemar.
Mead, F. S., Shelby Basin.
Mekell, Abram V., North Hector.
Melick, William B., Albany.
Merchant, Abel, Nassau.
Merrell, G. L., Syracuse.
Merriam, Charles M., Leyden,
Merriam, Clinton L., Leyden.
Merrick, Asa L., Syracuse.
Merrill, F. J. H., Albany.
Merriman, Chas. A., Ogdensburg.
Merriman, Fred J., Madrid.
Merritt, Edwin A., Potsdam.
Merritt, Edwin A., Jr., Potsdam.

Mertens, J. W., Syracuse.
Messenger, W. S., Great Neck.
Messiter, George N., Brooklyn.
Metcalf, Abram, Syracuse.
Meyer, Theo. F. M., New York.
Michener, Chas. B. (D. V. S.), Washington, D. C.
Middleton, Robert, Utica.
Miller, Brayton B., Lowville.
Miller, Chas. D., Geneva.
Miller, Dudley, Oswego.
Miller, Gerritt S., Peterboro.
Miller, Peter, Fredonia.
Miller, Riley V., Syracuse.
Miller, Warner, Herkimer.
Miller, W. S., Syracuse.
Mills, C., Baldwinsville.
Mills, George F., Fonda.
Mills, H. M., Rochester.
Mills, James R., Hoboken.
Mitchell, E. D., Weedsport.
Mitchell, Truman A., Weedsport.
Mixter, David E., Jordanville.
Moak, Nathaniel C., Albany.
Moak, Philander, Cooperstown.
Moller, Wm. F., Irvington.
Monroe, John S., Camillus.
Montgomery, R. H., Ogdensburg.
Moody, Robert, Hall's Corners.
Moon, C. B., Saratoga Springs.
Moore, Asa J., DeKalb.
Moore, Dr. Edward, Albany.
Moore, Frank M., Syracuse.
Moore, Henry C., Albany.
Moore, John, Syracuse.
Moore, John S., Medina.
Moore, Jerome B., Syracuse.
Moore, W. S., Mt. Upton.
Mordoff, M. C., Rochester.
More, William, Hammond.
Morey, Gardner P., Nassau.
Morgan, B. F., Albion.
Morgan, Henry A., Aurora.
Morgan, J. Pierpont, New York.
Morgan, M. T., North Winfield.
Morris, A. Newbold, Barton.
Morris, Eddie B., Ogdensburg.
Morris, Fordham, 16 Exchange Place, New York.
Morris, James R., Ogdensburg.
Morris, Lewis G., Fordham.
Morris, Gabriel A., Syracuse.
Morris, Wm. F., Baldwinsville.
Morrison, D. A., Montgomery.
Morrisey, Jeremiah W., Auburn.
Morton, Levi P., New York.
Morss, B. G., Red Falls.
Mortz, M. C., Mohawk.
Moser, C. P., Syracuse.
Moses, Frank H., Skaneateles.
Moses, L., Syracuse.
Mosher, E. D., Mapleton.
Mosher, Joseph F., New York.
Mount, Andrew, New York.
Mowry, Henry J., Syracuse.
Mowry, J. S., Rome.
Moyer, B. W., Syracuse.
Moyer, H. A., Syracuse.
Munroe, Henry S., Belle Isle.
Munroe, John C., Belle Isle.
Munroe, David H., Belle Isle.
Munro, Isaac H., Camillus.
Munson, E., Tyler.
Munson, E. S., Franklin.
Musselman, Chauncey, Phelps.
Myers, Charles, New York.
Myers, Gerritt S., Conewango.
Myers, John K., Yonkers.
Myers, Marvin E., Charlton.

N.

Nash, John M. L., New York.
Neal, W. H. H., Syracuse.
Nearing, G. W., Syracuse.
Neish, William, Hamden.
Nellis, A. J., Bath.
Nellis, F. D., Syracuse.
Nelson, George P., Scarsdale.
Nevin, John H., Ogdensburg.
Newcomb, Thomas, Albany.
Newell, Edgar A., Odgensburg.
Newell, Geo. A., Medina.
Newman, W. W., South Onondaga.
Newton, W. H., Cortland.
Newton, William, Henrietta.
Nichols, C. B., Auburn.
Nichols, E. E., South Onondaga.
Nichols, Oliver, South Onondaga.
Niver, W. K., Syracuse.
Noble, Charles C., Theresa.
Norman, Thos. E.

Northrup, Hiram D., Odgensburg.
Norton, John T., Albany.
Nott, Copely A., Syracuse.
Nottingham, J. A., Syracuse.
Nottingham, Dr. John, Syracuse.
Noyes, Wm. L., Owasco.
Nusbaum, Israel, Albany,
Nutting, B. F., Woodville.

O.

O'Brien, B., Albany,
O'Driscoll, Rev. James, Canton.
Ogden, C. E., New York.
Ogden, David B., New York.
Ogden, Francis L., New York.
Ogden, John D., New York.
Ogden, Ludlow, New York.
Ogden, George B., New York.
Ogden, Gouverneur M., New York.
Ogden, Thos. L., New York.
Ogden, Walter, New York.
Ogden, Wallace, New York.
Oliver, Robert S., Albany.
Olmstead, Henry M., Morristown, N. J.
Olmsted, Will H., Syracuse.
Olney, Peter B., New York.
O'Neil, Thomas R., Syracuse.
O'Neile, Henry, Syracuse.
Ormiston, James, Cuba.
Ormsby, Oliver, Syracuse.
Orr, Robert, DePeyster.
Orr, James, DePeyster.
Osborn, Amos O., Waterville.
Osborne, John H., Auburn.
Osborne, Thomas M., Auburn.
Osborne, W. B., Victor.
Ostrander, Henry S., Knowlesville.
Ostrander, Homer A., Syracuse.
Ostrander, W. P., Schuylerville.
Otis, Isaac C., Jordan.
Otis, James, New York.
Owen, Jesse, Chemung.

P.

Paddleford, Harvey, Paddleford.
Page, Jno. R., Sennett.
Page, Joseph N., Syracuse.
Page, J. Will, Syracuse.
Page, Levi A., Seneca Castle.
Paine, Fred. B., South Granby.
Palmer, A. W., Syracuse.
Palmer, E. E., Hammond.
Palmer, Geo. C., Syracuse.
Palmer, Jas. R., Weedsport.
Palmer, Samuel H., Ogdensburg.
Pangborn, Wm., Clyde.
Park, Curtis, Baldwinsville.
Park, Joseph, New York.
Parks, Jonas, Horseheads.
Parke, H. S., New York.
Parker, Abram X., Potsdam.
Parker, Amasa J., Albany.
Parker, M. L., Lyndonville.
Parkinson, W. J., Ballston,
Parsons, C. H., Fairmount.
Parsons, Frank M., Weedsport.
Parsons, John D., Albany.
Parsons, John D., Jr., Albany.
Parsons, J. Russell, Hoosick Falls.
Parsons, R. D., Cazenovia.
Parsons, R. H., Lockport.
Parsons, W. A., Fairmount.
Paton, William, New York.
Patterson, Calvin, Fairmount.
Patterson, Albert M., Waterloo.
Patterson Geo. W., Fairmount.
Patterson, L. L., Camillus.
Patton, David H., Albany.
Peabody, Charles A., Jr., New York.
Pearsall, N. B., Morris.
Pearson, Rob't H., Lockport.
Pease, James D., Corning.
Pease, John F., Syracuse.
Peck, Benj. F., East Bethany.
Peck, Charles, North Manlius.
Peck, W. S., Syracuse.
Peebles, W. A., Martinsburgh.
Peer, Frank S., Mt. Morris.
Peet, Isaac Lewis, New York.
Pell, Robert L., Pelham Farm.
Pellew, Henry E., Katonah.
Pendergast, P., Phœnix.
Pendergast, J. W., Phœnix.
Pendergast, Stephen, Phœnix.
Pendry, Wm. H., Albion.
Penfold, E., Jr., New York.
Penfold, William Hall, New York.
Perkins, F. E., Providence, R. I.
Perrin, P. Parsons, Camillus.
Perry, A. D., Syracuse.
Perry, Marcus A., Buffalo.

Peters, William, Ogdensburg.
Petrie, William, Cicero.
Peugnet, Charles, Cape Vincent.
Pfohl, Peter, Syracuse.
Phares, Henry, Syracuse.
Pharis, Charles S., Syracuse.
Pharis, M. P., Syracuse.
Phelps, Thomas W., New York.
Philip, H., Van Ness, New York.
Philip, M. Hoffman, New York.
Phillips, Marcus H., Hulburton.
Phillips, John M., Hulburton.
Pierson, Henry L., New York.
Pierson, M. F., Seneca Castle.
Pierce, Marsh C., Syracuse.
Pierce, Sylvester P., Syracuse.
Pinckney, Stephen R., New York.
Pine, A. I., Pittstown.
Pine, George W., Herkimer.
Pinkey, Thomas, ———.
Pitts, Edmund L., Medina.
Plane, Thomas, Newfane.
Platt, James N., New York.
Platt, Thomas C., New York.
Plumb, O. F., Fairmount.
Plummer, Reub. S., Carlyon.
Pollok, W. J., Hopewell.
Pomroy, William H., New York.
Popham, William H., Scarsdale.
Porter, Ira, Jr., Albany.
Porter, James A., Lacona.
Porter, Peter A., Niagara Falls.
Porter, W. H., Syracuse.
Porter, W. W., Syracuse.
Post, William T., Elmira.
Potter, A. B., Fairport.
Potter, Cranston T., Elmira.
Potter, E. J., Knowersville.
Potter, Howard, New York.
Potter, Lewis, Easton.
Potter, Orlando B., New York.
Potter, O. C., Syracuse.
Powell, Edward A., Syracuse.
Powell, George T., Ghent.
Poole, Theodore L., Syracuse.
Pooler, Hiram A., 34 Gramercy Park, New York.
Pratt, Russell W., Camden, N. J.
Prentice, William P., New York.
Prentiss, J. H., Chicago.
Prescott, T. A., Sandy Hill.
Preston, George R., Cazenovia.
Price, George H., Albany.
Proctor, J. N., Albion.
Proctor, Thomas R., Utica.
Proctor, William L., Ogdensburg.
Pruyn, Charles L., Albany.
Pruyn, John V. L., Albany.
Pruyn, Robert C., Albany.
Purdy, Samuel M., West Farms.
Pyle, James, New York.

Q.

Quackenbush, Cebra, Albany.
Quinlan, P. R., Syracuse.

R.

Raines, John, Canandaigua.
Ramsdell, Homer, Newburgh.
Ramsdell, H. Stockbridge, Newburgh.
Ramsdell, L., Greenville.
Ramsey, Joseph H., Howes Cave.
Randall, Benjamin, Chicago.
Randall, George H., Brooklyn.
Randall, Nathan, Syracuse.
Ranger, W. V., Syracuse.
Rankin, William, ———.
Ransom, Geo. F., Syracuse.
Rathbone, George, New London.
Rathbone, John F., Albany.
Rathbun, Acors, Albany.
Rathbun, Charles, Verona.
Rathbun, John T., Elmira.
Rathbun, L. W., Warren.
Ratchford, James, Syracuse.
Ray, John P., Hemlock Lake.
Read, James H., Utica.
Read, J. Meredith, Paris, France.
Reade, Robert, New York.
Read, William G., New York.
Redfield, Frank B., Batavia.
Reed, Almet, New York.
Reed, I. C., Syracuse.
Reeve, John H., Wells Corners.
Reid, James R., Elmira.
Remington, Clarence D., Auburn.
Remington, Irwin D., Auburn.
Remington, M. C., Weedsport.
Remington, William R., Canton.
Reynolds, John H., Albany.
Reynolds, M. F., Rochester.

Reynolds, Milton F., Auburn.
Reynolds, Samuel T., Elmira.
Rheubottom, H. E., Weedsport.
Rhodes, Almond H., Fairmount.
Rhodes, J. Irving, Camillus.
Rice, Albert J., Sodus.
Rice, James E., Ithaca.
Rich, A. P., Auburn.
Richards, N. C., Fort Washington.
Richards, Wm. G. Syracuse.
Richardson, H. W., East Aurora.
Richardson, R. M., Syracuse.
Richardson, W. P., Goshen.
Rickett, Morris, DePeyster.
Rider, Zerah, Cambridge.
Riggs, C. G., Turin.
Riley, A. W., Rochester.
Ripley, Joseph, New York.
Ritter, M. B., Waterloo.
Roach, Paul, Central Bridge.
Roberts, I. P., Ithaca.
Roberts, Mrs. J. A., Pine Valley.
Robertson, Dr. A. K., Brooklyn.
Robbins, George A., New York.
Robie, Charles H., Savona.
Robinson, A. S., Morley.
Robinson, Chauncey N., Elmira.
Robinson, Charles, Fishkill Plains.
Robinson, Chas. W., Hornellsville.
Robinson, George, Canton.
Robinson, Henry J., New York.
Robinson, John A., Elmira.
Robinson, J. D., Sennett.
Robinson, John S., Geneva.
Robinson, W. D., Kanona.
Rockwell, H., Horseheads.
Rockwell, John B., Elmira.
Rockwell, Jonathan, Pine Valley.
Rockwell, S. D., New York.
Rodgers, L. M., Newtonville.
Roessle, E. O., Albany.
Roff, Alanson, Syracuse.
Rogers, Daniel E., Wheatland.
Rogers, Henry W., Buffalo.
Rogers, Irwing B., Chittenango.
Rogers, Julius E., Binghamton.
Rogers, U. C., Albion.
Rogers, Wm. H., Barre Center.
Root, Curtis, Reynold's Basin.
Root, Eugene R., Lockport.
Root, C. P., Gilbertsville.
Root, F. P., Brockport.
Root, James, Skaneateles.
Root, James A., Skaneateles.
Root, Samuel, Weedsport.
Rosenbloom, Daniel, Syracuse.
Roosevelt, Theo., New York.
Ross, Warner L., Syracuse.
Ross, William F., Albion.
Rude, J. E., Weedsport.
Ruger, William C., Syracuse.
Runyan, Vincent L., Seneca Castle.
Rupert, P. G., Seneca.
Rupert, W. P., Seneca.
Rupert, W. T., Seneca.
Russell, A. B., Syracuse.
Russell, C. H., East Onondaga.
Russell, Henry, Albany.
Rutherford, John T., Canton.
Rutherford, W. L., Waddington.
Rysdorph, Lawrence, Greenbush.

S.

Sackett, C. C., Canandaigua.
Sackrider, Horace D., Canton.
Sadler, Russell Z., Syracuse.
Sager, A., Cortland.
Sampson, George G., Brooklyn.
Samson, William H., Spokane, Wash.
Sanders, J. H., St. Johnsville.
Sanders, Walter T. L., Schenectady.
Sanford, George S., Syracuse.
Sard, Grange, Albany.
Satterlee, George, Fort Edward.
Saul, Charles F., Syracuse.
Saunders, Thomas P., Adams.
Savage, Charles, Elmira.
Savage, Thomas, New Hartford.
Sawyer, Judge Jno. G., Albion.
Sawyer, Jno. P., Gasport.
Sax, Jacob, Syracuse.
Sayre, Willis B., Horseheads.
Schenck, Adrian A., Syracuse.
Schlosser, Charles, Syracuse.
Schofield, I. L., Chenango Bridge.
Schoonmaker, Henry, Becker's Corners.
Schreiner, O. H., New York.
Schwarz, A. H., Syracuse.
Schultz, Jackson S., New York.
Schuyler, Gerritt L., Watervliet.
Schuyler, Isaac L., Manchester, Vt.
Schuyler, Peter C., New York.

Schuyler, Philip D., Fairmount.
Schuyler, P. J., Fairmount.
Schuyler, Philip S., Watervliet.
Schuyler, Richard P., West Troy.
Scott, Dennis W., Medina.
Scott, Harry M., Medina.
Scott, John H., New York.
Scoville, J. V. H., New Hartford.
Seaman, P., Newburgh.
Searle, E. P., Albion.
Sears, W. J., Liverpool.
Seeber, Eli J., Depauville.
Seegur, Hiram, Adams.
Seeley, D. W., Albany.
Seeley, W. W. (M. D.), Poughkeepsie.
Selkreg, John H., Ithaca.
Seney, George I., New York.
Seton, Alfred, New York.
Settle, DeForest, Syracuse.
Seward, Wm. H., Auburn.
Seymour, John F., Utica.
Seymour, Joseph, Syracuse.
Shannahan, James, Tribes Hill.
Shangraw, John, DeWitt Centre.
Shaw, D. W., Weedsport.
Scharck, Anthony, DeFreestville.
Shafer, W. A. Milford.
Shattuck, Jerome B., Cherry Creek.
Shattuck, J. S., Norwich.
Shaw, George, Deerfield.
Shea, D. E., Syracuse.
Sheldon, Clarence W., Brooklyn.
Sheldon, D. S., Weedsport.
Sheldon, Henry K., New York.
Sheldon, James, New York.
Sheldon, James O., New York.
Sheldon, J. S., Weedsport.
Sheldon, Lucius M., Brooklyn.
Sheldon, W. C., Sennett.
Shepard, Elliott F., New York.
Shephard, Edward M., Brooklyn.
Sherman, Benjamin L., New York.
Sherman, B. F., Ogdensburg.
Sherman, C. A., New York.
Sherman, Ira E., Sidney Plains.
Sherman, John C., Ogdensburg.
Sherman, Samuel, Lundoy's Lane, Pa.
Sherrill, E., New Hartford.
Sherrill, Lewis, Greenville.
Sherwood, E. D., Camillus.
Sherwood, Gates, Albion.
Sholes, N. T., Syracuse.
Shook, Sheridan, Barrytown.
Short, F. T., Syracuse.
Short, James, Ogdensburg.
Shuler, Duane V., Lockport.
Shull, Josiah, Ilion.
Signor, Isaac S., Albion.
Simonds, Alexander B., New York.
Simonds, Wm. B., New York.
Simpson, George G., Brooklyn.
Simpson, J. B., Jr., New York.
Simpson, John V., West Farms.
Simpson, William, West Farms.
Simpson, William, Jr., New Hudson.
Sisson, George M., Genoa.
Skinner, Dr. E. C., East Syracuse.
Slack, Michael, Medina.
Slatterly, Patrick, Syracuse.
Slee, John D. F., Elmira.
Slingerland, William H., Normanskill.
Sloan, Samuel, New York.
Slossen, H. L., Geneva.
Smead, Dr. C. D., Logan.
Smedberg, Hugh A., New York.
Smith, Albert, New Rochelle.
Smith, Andrew H., New York.
Smith, Alonzo A., Ogdensburg.
Smith, Arnold E., Ogdensburg.
Smith, A. E., Jr., Camillus.
Smith, Charles A., Auburn.
Smith, Charles, Baldwinsville.
Smith, E. E., Syracuse.
Smith, Enos, Plainville.
Smith, F. Wayland, Kenwood.
Smith, Dr. F. W., Syracuse.
Smith, Gabriel L., Elmira.
Smith, Grove B., Plainville.
Smith, Goldsborough C., Auburn.
Smith, George A., Frankfort.
Smith, H. Cordenio, Marcellus.
Smith, Henry L., Albany.
Smith, H. S., North Syracuse.
Smith, J. Q., Syracuse.
Smith, Lewis M., Elmira.
Smith, Lyman C., Syracuse.
Smith, M. C., Syracuse.
Smith, M. Homer, Baldwinsville.
Smith, Miles, Baldwinsville.
Smith, M. H., Geneva.
Smith, Samuel, New York.
Smith, S. F., Syracuse.

Smith, Silas G., Mechanicville.
Smith, Solomon P., Waterford.
Smith, Stephen, Mountainville.
Smith, S. W., Albion.
Smith, Thomas, New York.
Smith, Wm. Brown, Syracuse.
Smith, W. Harrison, Geneva.
Smith, W. Judson, Syracuse.
Smith, Wing R., Syracuse.
Smith, Wm., Geneva.
Smith, W. C., Fairmount.
Smith, W. L., Canandaigua.
Smithers, Norman E. A., Ogdensburg.
Smylie, Frank W., Denver, Col.
Snow, Chas. W., Syracuse.
Snow, Orrin J., Syracuse.
Snyder, Charles, Edenton.
Snyder, Peter, Manlius Station.
Souci, Geo. O., Weedsport.
Soule, Alexander C., Syracuse.
Soule, F. C., Syracuse.
Soule, O. F., Syracuse.
Spaulding, Henry F., New York.
Spaulding, N. G., Schodack Landing.
Spencer, J. E., Utica.
Spencer, H. J., Kiantone.
Spencer, Lorillard, Westchester.
Spencer, Nelson S., New York.
Sperry, R. S., Syracuse.
Spoffard, Eugene W., Elwood.
Spoffard, Joseph L., New York.
Sprague, J. C., Ogdensburg.
Spratt, Thomas, Ogdensburg.
Spring, Frank D., Victor.
Stacy, Erastus W., De Kalb.
Staley, Daniel G., Albany.
Standring, L. S., Deer River.
Stanley, B. H., Cazenovia.
Starin, John H., Fultonville.
Stedman, George L., Albany.
Stephens, Henry F., Syracuse.
Stephens, Sam'l, Syracuse.
Sterling, Lewis T., Gouverneur.
Stevens, F. C., Attica.
Stevens, H. J., Syracuse.
Stevens, S. W., Rochester.
Stevens, LeRoy W., Auburn.
Stevens, Ward W., Lacona.
Stevenson, L. A., Syracuse.
Stevenson, L. E., Syracuse.
Stevenson, Theodore, Cortland.
Stewart, E. LeRoy, Fishkill Landing.
Stickney, Albert, New York.
Stillman, Charles, Woodstock.
Stinard, Alfred F., Syracuse.
Stinard, W. H., Syracuse.
Stockwell, S. S., New York.
Stoddard, Increase B., Horseheads.
Stoddard, Joshua C., Lockport.
Stone, Charles L., Syracuse.
Stone, Horace G., Syracuse.
Stone, N. L., Potsdam.
Strong, Benjamin W., Newtown.
Stork, Joseph, Medina,
Storm, Joseph H., Green Haven.
Story, Richard J., Greenbush.
Story, Richard R., Albany.
Stratt, F. C., Cortland.
Stuckey, Geo. S., Marcellus.
Sturge, Willard, Weedsport.
Sturtevant, E. Lewis (M. D.), South Framingham, Mass.
Stuyvesant, John R., Poughkeepsie.
Suffern, Andrew, Elmira.
Suffern, John, Elmira.
Sutherland, J. H., Pittsford.
Swain, Thomas M., Bronxville.
Swan, Benjamin L., Jr., Oyster Bay.
Swan, Robert J., Geneva.
Swartwout, Daniel, Owasco.
Sweney, A. H., Albany.
Sweet, Anson A., Syracuse.
Sweet, Albert L., Medina.
Sweet, J. E., Syracuse.
Sweet, W. A., Syracuse.
Sweezy, George W., New York.
Sweezey, Richard L., New York.

T.

Taber, George, East Aurora.
Talbert, J. H., Syracuse.
Talbott, Thos., Jr., Syracuse.
Tallcot, Geo. M., Skaneateles.
Talheimer, Gates, Syracuse.
Tallmadge, Samuel, Valatie.
Tanner, W. E., Syracuse.
Tappan, Wallace, Baldwinsville.
Taylor, Abram, Johnson's Creek.
Taylor, Edy L., Syracuse.
Taylor, Eli, East Elba.
Taylor, E. W., Elmira.
Taylor, James R., Brooklyn.

Taylor, John W., Grand Rapids, Mich.
Taylor, N. G., Weedsport.
Taylor, Thos. E., Syracuse.
Ten Broeck, Edward B., Albany.
Ten Broeck, Walter L., Rhinebeck.
Ten Eyck, James, Albany.
Tenney, Mrs. Ellen L., Albany.
Terry, Edmund, Utica.
Terry, Guy, Fairmount.
Thatcher, George H., Albany.
Thatcher, Jery B., West Danby.
Thatcher, John B., Albany.
Thayer, Charles, Lyndonville.
Thayer, Charles I., Cooperstown.
Thomas, Asahel K., Amboy.
Thomas, George C., Waterloo.
Thomas, Jeffrey P., Albany.
Thomas, John, Frankfort.
Thompson, A. H., Syracuse.
Thompson Frederick, New York.
Thompson, Lemon, Albany.
Thorn, Oakleigh, Millbrook.
Thorn, R. H., Syracuse.
Thorne, Jonathan, New York.
Thorne, Samuel, New York.
Thorne, William, New York.
Thornton, P. S., Marcellus.
Tibbitts, Lester G., Guilderland.
Tiffany, Joseph, Medina.
Tillotson, Gouverneur, New York.
Tillinghast, A. O., West Valley.
Tilly, Edwin, Memphis.
Tinkham, R. M., Barre Centre.
Tisdale, W. D., Cortland.
Titus, Charles M., Ithaca.
Titus, Seymour N., Weedsport.
Tobey, Reuben, Pittsford.
Toll, Able H., Baldwinsville.
Toll, T. M., Weedsport.
Tomes, Francis, New York.
Tompkins, Daniel D., Medina.
Tompkins, James, Albany.
Tompkins. J. D., Brainard.
Townsend, John D. P., Albany.
Townsend, Rufus K., Albany.
Townsend, Theodore, Albany.
Townsley, H. M., DeKalb.
Tracy, O. V., Syracuse.
Tracy, Charles, Ghent.
Treadwell, George H., Albany.
Treichler, Henry B., Sanborn.
Treichler, Eli J., Sanborn.
Tripp, Lemon B., North Castle.
Trowbridge, Miles L., Syracuse.
True, R. B., Syracuse.
Tryon, Howard, Fleming.
Tryon, Oscar, Auburn.
Tubbs, A. S., Mexico.
Tucker, Gilbert M., Albany.
Tucker, Luther H., Albany.
Turner, Benjamin, Horseheads.
Turner, David, Veteran.
Turner, David J., Horseheads.
Turner, Stephen J., Horseheads.
Turner, Elisha R., Pope's Mills.
Turner, Wm., Edenton.
Turnure, David M., New York.
Tuthill, W. H., Canandaigua.
Tweddle, George, Baltimore, Md.
Tyler, Joel, Springwater.
Tyler, Warren J., South Byron.

U.

Umricht, Charles, Syracuse.
Underhill, Daniel, Jericho.
Underhill, R. T. (M. D.), Croton Landing.
Underwood, G. F., ——.

V.

Vail, Theodore F., New York.
Van Allen, Edwin, Bethlehem.
Van Allen, Garret A., Albany.
Van Alstyne, Edward, Kinderhook.
Van Alstyne, P. Edward, Kinderhook.
Van Antwerp, Elmer H., Albany.
Van Benthuysen, Chas. H., Albany.
Van Benthuysen, Frank, Albany.
Van Cleft, Jos., Newburgh.
Vanderveer, Theodore B., Amsterdam.
Vanderveer, George, Port Jackson.
Van Deusen, H. A., Canajoharie.
Van Duzer, Jonas S., Horseheads.
Van Dreser, Henry, Cobleskill.
Van Duyn, John, Syracuse.
Van Gorder, Robert B., Elmira.
Van Hoesen, Jacob, Van Buren.
Van Hoesen, John I., Castleton.
Van Horn, G. H. F., Fonda.
Van Horn, Abram, Fonda.

Van Horn, John S., Fonda.
Van Huesen, Theodore V., Albany.
Van Orden, William H., Catskill,
Van Pelt, Henry, New York.
Van Schoick, Josiah F., Syracuse.
Van Valkenburgh, John L., Albany.
Van Vranken R., Syracuse.
Van Vranken, William, Schenectady.
Van Wagenen, Jared, Lawyerville.
Varnum, James M., New York.
Varnum, Robert T., New York.
Vaun, Irving G., Syracuse.
Vick, Frank H., Rochester.
Viele, Maurice E., Albany.
Vincent, M. J,, Syracuse.
Vilas, Calvin, Ogdensburg.
Voorhees, W. J., Baldwinsville,

W.

Wackerhagen, E., Greenville.
Waddington, Geo,, New York.
Wadsworth, Charles F., Geneseo.
Wadsworth, James W., Geneseo.
Wadsworth, J. H., Camillus.
Wadsworth, William A., Geneseo.
Wagstaff, Alfred, Jr., Babylon.
Wainwright, Charles S., Rhinebeck.
Waite, David, Well's Bridge,
Walbridge, S. D., Rochester.
Wales, George S., Syracuse.
Wales, Walter S., Syracuse.
Walker, C. E., Corning.
Walker, Wallace, Auburn.
Walling, William H., Potsdam.
Walrath, C. A., Syracuse.
Walsh F., Syracuse.
Walter, John A., Stiles Station.
Walter, Frank D., LeRoy.
Ward, Samuel B. (M. D.), Albany.
Ward, Wm. L., Port Chester.
Wardwell, Henry L.. Springfield Centre
Warner, Chas. M., Jordan.
Warner, Daniel I., Canaan.
Warner, George H., New York Mills.
Warner, John H.. Niskayuna.
Warren J., Hobart, Hoosick Falls.
Wasson, James D., Albany.
Waterbury, Isaac C., Syracuse.
Watson, H. M. Buffalo.
Watson, H. R. C., West Farms.
Watts, John, Ithaca.
Webber, Aaron A., Nassau.
Webster, Eli, Hindsburgh.
Webster, Milo F., Victor.
Webster, Wm. A., South Hammond.
Weed, William H., New York.
Weed, William R., Potsdam.
Weed, William W., Potsdam.
Weight, Wm. B., Baldwinsville.
Weld, Jno., Lyndonville.
Welles, John C., Elmira.
Welles, M. H., Elmira.
Welles, Eugene, Rhinebeck.
Welles, S. C. LeRoy,
Wells, A. J., Syracuse.
Wells, Edwin M., Syracuse.
Wells, George E., Syracuse.
Wells, Geo. M., Big Flats.
Wells, Harrison, Cortland.
Wells, J. Emmett, Syracuse.
Wells, John E., Onondaga.
Wells, Thos. M., DeKalb Junction.
Wemple, Edward, Fultonville.
Wemple, Robert, Fultonville.
Wende, B. A., Alden.
Wende, Charles C., Alden.
Wendell, Burr, Cazenovia.
Wendell, Edward A., Albany.
Wendell, James V., Albany.
West, E. K., Syracuse.
West, Geo., Ballston Springs.
Westfall, James, Syracuse.
Westfall, O. J., Fairmount.
Westlake, John F., Horseheads.
Wetherbee, Ansel, Barre Centre.
Wetmore, Benjamin C., New York.
Wetmore, W. H., Syracuse.
Weyant, Geo. H., Weedsport.
Whelan, Michael, Syracuse.
Wheeler, Charles L., Cherry Creek.
Wheeler, Cyrenus, Jr.. Auburn.
Wheeler, G. H., Hammondsport.
Wheeler, James A., Pine Valley.
Wheeler, Obed, South Dover.
Whipple, William, Medina.
Whipple, Watson U., Medina.
Whitbird, T., Syracuse.
White, A. H., Medina.
White, Douglass L., Albany.
White, Hugh, Utica.
White, H. L., Utica.
White, Hamilton S., Syracuse.

White, John J., Albany.
White, Rufus P., Adams.
White, Wm. M., Canaseraga.
White, Wm. P., Utica.
Whitnall, T. S., Syracuse.
Whitney, Cheney P., Orleans.
Whitney, George J., Rochester.
Whitney, James W., Rochester.
Whitney, James, Horseheads.
Whitney, N. Prentice, Morley.
Whitney, Wm. M., Albany.
Whitney, Wm. M., Jr., Albany.
Whittleton, Benjamin A., Medina.
Wiard, W. W., Syracuse.
Wicks, J. W., Syracuse.
Wickwire, C. F., Cortland.
Wickwire, F. H., Cortland.
Wier, H. C., Sugarloaf.
Wright, R. A., New York.
Wilber, Calvin C., Fairmount.
Wilber, D. F., Oneonta.
Wilbur, Chas. V., Fairmount.
Wilbur, Fred. B., Fairmount.
Wilbur, Royal P., Lowville.
Wilcox, Aurin, Corning.
Wilcox, A. B., East Carlton.
Wilcox, A. F., Manlius.
Wilcox, B. M., Auburn.
Wilcox, C., Baldwinville.
Wilcox, Cyrus, C., Oswego Falls.
Wild, W. H., Valatie.
Willard, G. L., Cold Spring Harbor.
Willard, Samuel D., Geneva.
Wilcox, C. A., Syracuse.
Willers, Diedrich, Jr., Varick.
Willetts, J. C. Skaneateles.
Willetts, Robert, Bayside.
Willetts, Wm. R., Skaneateles.
Williams, Charles F., Middleport.
Williams, J. E., New York.
Williams, John S., Buffalo.
Williams, Samuel Lloyd, Perrinton.
Wilson, Benton H., Syracuse.
Wilson, Catlin, New York.
Wilson, J. C., Morley.
Wilson, James H., Milton.
Wilson, Jesse B., DePeyster.
Wilson, L. Howard, DePeyster.
Wilson, Thaddeus L., DePeyster.
Wing, H. H., Ithaca.
Wing, J. Morgan, New York.
Wing, John D., New York.
Wing, L. Stewart, New York.
Windholz, L., Syracuse.
Wiser, Julius C., Richville.
Witherhead, John, Ogdensburg.
Witherhead, Geo. H., Ogdensburg.
Wolcott, C. E., Syracuse.
Wolfe, N. H., New York.
Wood, Amos F., Mason, Mich.
Wood, E. D., Utica.
Wood, Frank, Akron, O.
Wood, Frank M. J., Albany.
Wood, Geo. M., Woodville.
Wood, James, Mt. Kisco.
Wood, John E,, Middletown.
Woodford, Francis T., Utica.
Woodward, J. Milton, Lockport.
Woodward, Jabez S., Lockport.
Woodward, James O., Albany.
Woodruff, Franklin, Brooklyn.
Woodruff, H. D., Auburn.
Woodworth, Augustus P., New York.
Woodworth, Amos L., Fulton.
Wooster, Chas. A., No. Hammond.
Wormuth, Geo. B., Stiles Station.
Wright, Frank P., Albany.
Wright, George W., New York.
Wright, James, Weedsport.
Wright, Merytt M., Lamsons.
Wright, R. B., Lyndonville.
Wright, Solon D., Hammond.
Worker, Hamlet, Syracuse.
Worden, Byron, Oswego.
Worden, Stewart, Syracuse.
Wurtz, Charles Stewart, Philadelphia, Pa.
Wyckoff, E. G., Syracuse.
Wynkoop, J. G., Syracuse.

Y.

Yates, Harry, Rochester.
Yale, J. W., Syracuse.
Youmans, Wm., Delhi.
Young, Calvin, Auburn.
Young, Chas. W., Syracuse.
Young, George, Utica.
Young, S. W., Weedsport.

Z.

Zettwick, Louis, Syracuse.
Zimmerman, J. A., Syracuse.

Report of the Executive Board.

A careful study of the results of the last agricultural year, while showing a falling off in some respects, enables us to congratulate the husbandmen generally throughout the State on a prosperous and remunerative season.

Vegetation, which had been delayed by excessive rainfalls, made a rapid advance during the warm period late in May and early in June. The unusual wet had injured the spring grains somewhat, especially in the counties near the central lakes and in the western section, the extent of the injury depending mainly on the drainage of the soil.

Potato seed rotted in the ground in portions of Wyoming and Washington counties, and also to a slight extent in other sections. Farm work was backward, especially the planting of corn and potatoes.

The weather throughout the month of June was warm and favorable to the growth of vegetation, with occasional showers and light rains in different sections.

Throughout July these favorable conditions continued, with the exception of storms of wind and hail, which passed over the southern portions of the State on the thirteenth, and over the western and northern portions on the fifteenth, causing in the aggregate a considerable loss of grains, tree fruits and farm products.

Early in August some portions suffered badly from excessive heat and drouth, but this condition was relieved by ample rainfalls later in the month. In the northern part of the State and in southern Chautauqua county the rainfall of the twenty-fourth to twenty-sixth was phenomenal. In the St. Lawrence valley large acres of flat lands were under a foot or more of water, and the consequent loss of corn, potatoes and late grains was very large.

Light showers and generally fair weather promoted a sound growth of vegetation early in September, but light frosts occurring on the nights of the twentieth and twenty-first did some damage in the lowlands; the loss from frost, however, was comparatively slight.

Wheat.— The yield of wheat throughout the State was about up to the average, with the exception of a few localities which suffered from the excessive rains, rust and other causes. The grain was of an excellent quality, plump and solid. Slight ravages from the Hessian fly were reported from Schuyler and Wayne counties.

Oats.— The oat harvest, as a rule, fell below the average; late planting and rust reduced the quality and quantity of the general crop. The amount of oats planted was considerably below the average, and the stand was quite uneven over a large portion of the State. Much discoloration was reported over large tracts in Ontario and Jefferson counties.

Barley.— Barley suffered considerably from the heavy rains, and the yield was not satisfactory.

Rye.— Rye averaged a fair crop in quantity and quality.

Hay.— In general the hay crop was good, the grass having a heavy growth without being rank. In some portions of the State the yield was above the average.

Corn.— Excellent yields of corn were obtained in some sections, but the average yield was not up to previous years, partly to be attributed to late planting, and in some instances to early frosts.

Buckwheat.— The harvesting of buckwheat resulted in only a fair yield, but the large acreage in some degree made up the deficiency.

Potatoes.— In some portions of the State the planting of potatoees was delayed by the wet. Those planted early to a degree rotted in the ground; the favorable weather which prevailed later improved the crop, but the general yield was poor. Some sections suffered considerably from blight and rot, but to a less degree than in previous years. Several observers state that a tendency to rot, after being stored, was apparent.

Hops.— The yield of hops fell far below the crop of 1891.

Tobacco.— Tobacco was of a somewhat uneven quality, and was damaged by the frost in some localities.

Fruits.

Apples.— The apple crop was about sixty per cent of the average of last year, varying largely in yield in different counties, while the quality has not been of the best, prices have been good, and where the yield was average or above, the fruit has been remunerative to growers.

Pears.— Pears have also been uneven in yield, the western portion of the State producing better than the eastern, except in the Hudson valley region, where the crop was abundant.

Grapes.— Grapes have yielded largely in all sections, but have not proved profitable to many growers. The prevalence of rot has been great, reducing the yield heavily in some sections, and with the low ruling prices, no profit has been realized for much of the fruit the past season. In central New York there was a rapid development of mildew, blight and rot, the Catawbas being most seriously affected. The disease spread through the Hudson valley region and appeared in St. Lawrence and several southern counties, seriously affecting the results of the harvest. Chautauqua county, however, shows an exception, and has been more free from fungus troubles; the greatest crop in its history has been produced and sold at fairly remunerative prices.

Plums.— Black knot is steadily spreading over the State, and many plum orchards have been ruined by it. Recent legislation has been obtained to exterminate the disease, and in some places the law is being enforced; in proportion as this is done, plum culture can again be followed with satisfactory results.

Peaches.— Peaches also yielded a light crop, in nearly all sections.

Cherries, especially the sweet varieties, rotted badly; sour cherries did better, but the crop fell below that of last year.

Small fruits as a rule fell below the average. In the Hudson river fruit region the strawberry crop was a great deal short of last year, and was not so good in quality. Black caps were a full crop, of excellent quality. Raspberries, one of the smallest, and of poor quality.

A violent wind storm on the twenty-sixth of October damaged large amounts of fruit in all parts of the State.

Grass crops and pastures have been excellent, and all kinds of live stock have made a healthy growth. The Texan or horn fly, however, proved of great injury to dairy interests in several localities by irritating the cattle.

The Agricultural Exhibit of the State of New York at the Columbian Exhibition.

It is a matter for congratulation that a fitting exhibition of our State's agricultural products will be made at the World's Fair, to be held in Chicago this year.

New York's agriculture differs from that of most other States in its extraordinary variety.

It not only excells every other State of the Union in its aggregate amount, but it also surpasses others in the number of its valuable products. To secure anything like a complete exhibition of these is no small undertaking, while its successful accomplishment will act as a stimulus to our own people who see it, and will prove of great value as a means of informing the world more fully of our surpassing resources.

As soon as the general managers of the State entered upon their duties and considered the subject of the agricultural exhibit, they consulted the Board of the State Agricultural Society, and asked its assistance.

It was at once apparent that it was quite beyond the society's province to undertake the preparation of the exhibit on its own account, but it was able to assist in the work by designating such of its members as were especially qualified for the work.

Ex-President James Wood was appointed "director-in-chief" of the exhibit, and entered upon the duties of the position on August first, undertaking the task without any compensation from any source.

He chose as his assistant, Colonel H. Bowen, who has long served the society, as a vice-president, and the general superintendent of its fairs.

With their thorough acquaintance with the agriculture of the State, they have been able to collect at a general store-house in Rochester, preparatory to shipment to Chicago, very complete samples of our various products.

Besides the general exhibit of the State, there will be a special exhibit of the leading cereals and other crops from each county, including New York and Kings.

This will excite a pleasant interest in the citizens of our different sections who visit the Exposition, and will serve to illustrate to others the extent of our area, and the adaption of our soils to the production of the leading staples.

The pomological display has been plaecd in the charge of George T. Powell, the director of the farmers' institutes.

We feel gratified that the society, through its officers, has been able to render the State such important service.

The breeds of domestic animals will be under the charge of the various breeders' associations; the dairy exhibit will be in the hands of the State Dairymen's Association; and the honey exhibit will be made by the Bee and Honey Association.

All these exhibits are under the general direction of Mr. Wood.

Farmers' Institutes.

The farmers' institutes for the regular winter series opened on November ninth, and they have been largely attended by interested and appreciative audiences.

There are over 100 appointments made by the director, covering the different sections of the State, with a large number of applications on file that can not be met, even with the increased appropriation.

There is now a perceptable improvement to be noted in the dairy productions of the State, both in quality and in increased production of the dairy stock. More intelligent care and feeding is being practiced. Improvement in the care of the fertilizers on the farms is being practiced, and much of the heretofore great waste is prevented. Orchards and vineyards are receiving better attention, and, in many other ways, are the benefits of farmers' institutes realized.

Annual Report of 1891.

The copies of the annual report for 1891 were destroyed in the large fire of September thirteenth, in this city. The State printer's establishment was burned to the ground, on the night of September 12-13, and our annual report, which was printed and nearly ready for distribution, totally consumed.

A new edition is now being printed and we hope to be able in a short time to supply our members and friends with copies.

The State Fair.

It is with pleasure that your executive board refers to the fifty-second annual fair.

The great success of the previous fair, stimulated the officers having charge of its management to increased exertions, every effort was made to make it equal to, if not to surpass, all former fairs, and we are happy to say that complete success rewarded their labors.

Many handsome and substantial buildings have been erected by exhibitors. An additional, large and commodious grandstand (fifty horse stalls), and a first-class half-mile track add much to the comfort and pleasure of the visitors. The half-mile track was pronounced one of the best, if not the very best half-mile track in the State; the grading and work being of the best description.

On Saturday, September tenth, we were honored by the presence of his excellency, Governor Roswell P. Flower. The grounds were filled with enthusiastic people from all parts of the State, eager to see and hear their distinguished visitor. The Governor was shown over the grounds by a committee of the society, and afterwards made a very appropriate address to the immense throng of visitors, from the grand stand.

A new and gratifying feature was introduced at the fair, the Grangers' day.

Tuesday, the thirteenth, was Grange day. The fact that the Hon. J. H. Bingham, Master of the National Grange, was to speak, attracted a large number of Grangers from all parts of the State. More than 300 Granges sent delegates to the fair.

The imperative necessity for providing suitable buildings for the fruit, flower and poultry departments, was made manifest during the night of the thirteenth. A violent gale of wind blew down nearly every tent on the grounds, and in consequence destroyed the fine exhibit of fruits and flowers. On Wednesday the scene over the grounds was one not to be forgotten. The large tents that stood up so proudly the day before, decorated with flags and streamers, were now prostrate and wrecked. By great exertion something like order was accomplished during the morning, but, of course, the fine display of the previous days could not be restored.

It is to be hoped that the present Legislature will appropriate a sufficient amount to enable the society to erect buildings, large and commodious enough to take care of, and display properly, the valuable exhibits entrusted to its care.

The breeds of cattle were represented as follows:

Short Horns 51, Devons 41, Herefords 22, Aberdeen-Angus 33, Brown Swiss 31, Red Polls 22, Holstein-Friesians 55, Dutch Belted 15, Ayrshires 57, Jerseys 87, Guernseys 115, working oxen 16, pairs of steers 3; total 557.

Horses.— Clydesdales 12, Shires 13, Percherons 14, French Coach 36, Cleveland bays 21, hackneys 5, thoroughbreds 3, standard breds 38, carriage and coach 9, roadsters 25, farm and draft 13, general purpose pairs 2, coach pairs 4, phaeton pairs 8, coupe 5, saddle 3, Shetland ponies 27, Exmore ponies 6, pony teams 4, riding and driving ponies 5, jacks 1, mules 2; total, 256.

Sheep.— Cotswolds 64, South Downs 20, Shropshires 131, Hampshires 76, Oxfordshires 76, Cheviots 51, Dorset-Horn 47, Merinos 229, Delaines 73, other breeds 56, fat sheep 42; total, 865.

Swine.— Chester Whites 47, Cheshires 65, Poland China 48, Duroc Jerseys 45, Small Yorkshires 29, Berkshires 42, Essex 18, Suffolks 4, Victorias 10; total, 308.

Poultry.—Asiatics 203, Dorkings 36, Americans 453, Hamburgs 184, Mediterranean 387, French 47, Polish 38, Games 138, Game Bantams 306, Bantams, other than game, 250, turkeys 41, geese 28, ducks 64, ornamental fowls 41, pigeons 122, rabbits 28, hatching apparatus 6; total, 2,372.

Of these entries, about 300 were pens, each containing five or more extra birds, so we may say there were 4,000 single birds exhibited, the greatest display of poultry ever made by the society.

Farm produce.— Grains 261, vegetables, preserved fruits, bees, honey, etc., 588, butter 49, cheese 45, bread 34; total, 977.

Domestic, art, fancy work, etc., 953.

Flowers 156, fruits 425.

There was a very fine display of agricultural implements, machinery, etc., many of the exhibits being of superior quality and excellence.

The director of the farmers' institutes has been urging the adoption of the study of natural science applied to agriculture, in our public schools, as one of the great needs of the times; as one of the best means to save the rural district schools, many of which are in a seriously declining condition, on account of the tendency of population to leave country districts and center in towns and cities.

It is advocated that agriculture, being the basis of the permanent prosperity and growth of all other interests, its principles should be taught in our public schools, that those who follow it may be instructed in some of those very essential fundamental principles in scientific truths and knowledge, which so many farmers are feeling greatly the need of, and for the dissemination of which the farmers' institutes are being held, in all parts of the State; the demand for which can not be fully met even with the increased appropriation of last year.

At the annual meeting of the school commissioners of the State, held at Watertown in September, Mr. Powell was sent as a delegate from the State society, and presented his views on this question to the convention, when a resolution was adopted by that body looking to co-operation with the New York State Agricultural Society in the adoption in our common schools of this system of agricultural education.

Obituary.

General James W. Husted, died September 25, 1892, being in his 60th year.

A lawyer by profession, General Husted was best known as a legislator, having served in the Assembly almost continuously for over twenty years. He was justly proud of having served as

Speaker of the House more terms than any other man in the history of that body.

He was a bright, forceful speaker, and his unusual knowledge of parliamentary law aided him greatly as a leader in successful legislation.

He became a member of this society in 1870, and was always actively interested in its success.

The late D. D. T. Moore, who was one of our members for over thirty years, died in New York June second last, at the age of 73 years.

Mr. Moore was one of the best known writers on agricultural topics in this State, if not in the country. He started and for years edited "Moore's Rural New Yorker."

Hardly less known than Mr. Moore was Mr. Joseph Harris, who died November 18, at his farm near Rochester, New York.

Mr. Harris was an Englishman, and came to this country when about twenty years of age. His papers, "Walks and Talks on the Farm," and other articles on farming are valuable and instructive works.

His later years have been devoted to experiments on "Moreton Farm" in new varieties of plants, the care of animals, and use of fertilizers.

Mr. Luther Leavitt French, who became a member of this society in 1865, died at the age of 82 years, on September tenth last, at Richfield Springs, of which agricultural society he was also a member.

Ira S. Adams, of East Aurora, died in October last, at the age of 67 years. He was for years a member of this society.

Orange Judd. Orange Judd was born near Niagara Falls in 1822. He worked his way through college, taking a post-graduate course in the first agricultural college in this country, now called Sheffield Scientific School of Yale.

In 1853 he accepted the editorship of the "American Agriculturist," then a small monthly sheet, with less than 1,000 circulation. The wonderful growth of that journal under his charge is probably known to most of our readers.

When the New York "Times" was founded, Mr. Judd accepted a position on its editorial staff, in addition to his other work. In 1859 he established the Orange Judd Publishing Company, which still continues under his name.

In 1866 he became a member of this society. He removed to the West with his sons, and for some time edited the "Prairie Farmer." At the termination of his engagement with that journal he established at Chicago the "Orange Judd Farmer." As a writer he dealt largely in exact detail, differentiating his subjects minutely and setting forth each detail clearly by a series of illustrations, scientific and mathematical. He was an extensive traveler on both continents and a voluminous commenter on things observed. His death removes one of the most notable figures in American agricultural journalism.

TREASURER'S REPORT.

RECEIPTS.

Balance from last account		$844 75	
Farmers' Institute fund		12,568 19	
Notes discounted		45,000 00	
Interest		16 77	
Railroad companies		2,808 93	
Sundries		134 68	
State appropriation		1,876 14	
State appropriation for premiums	$20,000 00		
State fair	23,816 63		
		43,816 63	
Total receipts			$107,066 09

DISBURSEMENTS.

Unsettled accounts of 1891, paid		$126 45	
Farmers' Institute fund		12,757 84	
Permanent improvements		6,189 32	
Notes redeemed		39,044 89	
Railroad freights and freight returned exhibitors		3,005 41	
Salaries		3,240 24	
Postage		438 17	
Interest		3,903 74	
Insurance		594 10	
Stationery		163 24	
Expenses of executive committee		720 60	
Premiums at State fair	$21,071 75		
Expenses at State fair	15,728 33		
		36,800 08	
Total disbursements			106,984 08
Balance on hand			$82 01

AWARDS

AT THE

FIFTY-SECOND ANNUAL CATTLE SHOW AND FAIR OF THE NEW YORK STATE AGRICULTURE SOCIETY, HELD AT SYRACUSE

SEPTEMBER 8–15, 1892.

CATTLE.

Shorthorn Herd.

H. A. Colton, Borodino; large gold medal.

Bull, Scottish Chief; cows, Rosemary, Violet, Sadie, Regina, Scottish Queen; reserve, Rosa Lee.

Shorthorn Bulls, Three Years Old.

Thomas Boak & Son, Gerry; first prize, fifty dollars; Red Emperor 2d, 12914, red and little white, bred by John Dryden, Brooklin, Ont.; calved January 20, 1889, sire Sussex (56625), dam Harmony, by Pride of the Isles (35072), gr. d. Hawthorn by Royal Duke of Gloster (29864).

Aaron Barber, Avon; second prize, twenty-five dollars; Butterfly Duke 10th, red roan, bred by Thomas Nelson & Son, Brantford, Ont.; calved January 20, 1889, sire Ingram, 98653, dam Butterfly Dutchess 7th by Sir Arthur Ingram, 83669, gr. d. Butterfly Duchess 5th, by Royal Oxford Gwynne, 21796.

M. B. Ritter, Waterloo; third prize, fifteen dollars; Arthur Victor, red, bred by Thomas Boak & Son, Gerry; calved April 30, 1889; sire Heir Apparent, (92799), dam Countess by Duke of Cumberland (58590), gr. d. Farewell, imported, by Royal Westmoreland (35416).

Shorthorn Bulls, Two Years Old.

H. A. Colton, Borodino; first prize, forty dollars; Scottish Chief, red, bred by exhibitor; calved February 21, 1890; sire Woodland Chief, 101380, dam Winterflower by Prince Rufus, 100178, gr. d. Winterberry by Cawdor.

A. M. Kent, Jamestown; second prize, twenty dollars; Scottish Victor, red, bred, by Thomas Boak & Son, Gerry; calved April 15, 1890; sire Warfare, 56712, dam Rose Leaf by Baron Linton, 49081, gr. d. Rose of Aberdeen by Gladson, 43286.

John B. Johnson, Ridge Mills; third prize, ten dollars; Roan Duke of Lakeside, 109903, dark roan, bred by H. A. Colton, Borodino; calved February 4, 1890, sire Woodland Chief, 101380, dam Rosemary by Hopeful, 63038, gr. d. Roseberry by Duke of Cumberland, 58590.

Shorthorn Bulls, One Year Old.

H. A. Colton, Borodino; first prize, twenty dollars; Major McKinley, red, bred by exhibitor; calved December 4, 1890, sire Woodland Chief, 101380, dam Violet by Hopeful, 63038, gr. d. Rosebud by Prince Englewood, 63982.

Thomas Boak & Son, Gerry; second prize, ten dollars; Deputy Sheriff, red and white, bred by exhibitors; calved June 26, 1891, sire Heir Apparent, 92799, dam Countess Belle by Hopeful, 63038, gr. d. Countess 2d by High Sheriff 3d, 60023.

M. B. Ritter, Waterloo; third prize, five dollars; Duke of Seneca, red with little white, bred by exhibitor; calved April 29, 1891, sire Chautauqua Duke, 73235, dam Pet by Senator 71737, gr. d. Lolly S. by 3d Earl of Oxford, 35423.

Shorthorn Bull Calves, Over Five Months Old.

Thomas Boak & Son, Gerry; first prize, ten dollars; Reuben, red bred by exhibitors; calved March 23, 1892, sire Red Emperor 2d, 12914, dam Maggie 2d by High Sheriff 3d, 60023, gr. d. Margaret by Duke of Cumberland, 58590.

H. A. Colton, Borodino; second prize, five dollars; Scottish Chief 2d, red, bred by exhibitor; calved December 10, 1891, sire Woodland Chief, 101380, dam Winterflower by Prince Rufus, 100178, gr. d. Winterberry by Cawdor, 65412.

Aaron Barber, Avon; third prize, ten dollars; Sir Ingram, red, bred by Thomas Nelson & Sons, Brantford, Ont.; calved December 13, 1891, sire Ingram, 98653, dam English Lady 9th by Hubert, 98605, gr. d. English Lady 2d by Prince Royal, 64014.

Shorthorn Cows, Four Years Old or Over.

H. A. Colton, Borodino; first prize, forty dollars; Rosemary, dark roan, bred by Thomas Boak & Son, Gerry; calved February 19, 1886, sire Hopeful, 63038, dam Roseberry by Duke of Cumberland, 58590, imported, gr. d. Strawberry by Rock, 64259.

Aaron Barber, Avon; second prize, twenty dollars; Julia 24th, red and white, bred by Thomas Nelson & Son, Brantford, Ont.; calved January 10, 1888, sire Oscar, 88296, dam Julia's Baroness, imported, by Baron Shendish 5th, 84545, gr. d. Julia's Bud by Duke of Darlington 4th, 97269.

Aaron Barber, Avon; third prize, twelve dollars; Lady Waterloo, red, bred by exhibitor; calved November 21, 1887, sire Waterloo Duke 17th, 78351, dam Rosa Lee by Brampton Hero, 58813, gr. d. Rose 2d by Baron Booth of Killerby, 18928.

Shorthorn Heifers, Three Years Old.

H. A. Colton, Borodino; first prize, forty dollars; Regina, roan, bred by exhibitor; calved November 22, 1888, sire Heir Apparent, 92799, dam Violet by Hopeful, 63038, gr. d. Rosebud by Prince of Inglewood, 63982, imported.

Aaron Barber, Avon; second prize, twenty dollars; Julia 25th, roan, bred by Thomas Nelson & Son, Brantford, Ont.; calved November 18, 1888, sire Ingram Chief, 81433, dam Julia 21st, imported by Baron Shendish 5th, 84545, gr. d. Julia 14th, by Clara's Rose 85124.

Thomas Boak & Son, Gerry; third prize, twelve dollars; Sowerby's Bride, roan, bred by William Linton, Ontario; calved July 10, 1889, sire Royal Booth, 3817 dam Lady Ann, imported by Paul Potter (38854), gr. d. Miss Irwin by Lord Irwin (29123).

Shorthorn Heifers, Two Years Old.

Aaron Barber, Avon; first prize, thirty dollars; Isabella 7th, red, bred by Thomas Nelson & Son, Brantford, Ont.; calved March 30, 1890, sire Baron Waterloo, 96158, dam Isabella 4th, by Lord Underly Barrington 6th, 82012, gr. d. Isabella 2d by Lord Zetland, 99247.

Thomas Boak & Son, Gerry; second prize, fifteen dollars; Countess Blaine, red, bred by exhibitors; calved April 7, 1890, sire Blaine, 96380, dam Countess Daisy by Heir Apparent, 92799, gr. d. Countess 2d by High Sheriff 3d, 60023.

H. A. Colton, Borodino; third prize, ten dollars; Rosa Lee, roan bred by exhibitor; calved January 18, 1890, sire Woodland Chief, 101380, dam Violet by Hopeful, 63038, gr. d. Rosebud by Prince Inglewood, 63982, imported.

Shorthorn Heifers, One Year Old.

Aaron Barber, Avon; first prize, twenty dollars; Lady Sharon, red, bred by exhibitor; calved February 2, 1891, sire Rosebud Acklam Sharon 2d, dam Lady Waterloo by Waterloo Duke 17th, 78351, gr. d. Rosa Lee by Brampton Hero, 58813.

Aaron Barber, Avon; second prize, ten dollars; 23d Duchess of Livingston, roan, bred by exhibitor; calved April 6, 1891, sire Waterloo Duke 17th, 78351, dam Duchess of Livingston by Lord Barrington Hillhurst, 52431, gr. d. 15th Duchess of Hillsdale by Gold Dust, 29602.

Aaron Barber, Avon; third prize, five dollars; English Lady 12th, red, little white, bred by Thomas Nelson & Sons, Brantford, Ont.; calved November 30, 1890, sire Ingram, 98653, dam English Lady 9th by Hubert, 98605, gr. d. English Lady 2d by Prince Royal, 64014.

Shorthorn Heifer Calves, Over Five Months Old.

Thomas Boak & Son, Gerry; first prize, ten dollars; Lady Emperor, roan, bred by exhibitors; calved January 14, 1892, sire Red Emperor 2d, 12914, dam Lady Starlight by Heir Apparent, 92799, gr. d. Lady Rothsay by Duke of Rothsay, 62528.

Thomas Boak & Son, Gerry; second prize, five dollars; Mildred, roan, bred by exhibitors; calved January 20, 1892, sire Red Emperor 2d, 12914, dam Margaret by Duke of Cumberland, 58590, gr. d. Miriam by Earl of Gloster, 18696.

A. M. Kent, Jamestown; third prize, three dollars; Kent Beauty 2d, red, bred by exhibitor; calved November 25, 1891, sire Arthur Victor, 106210, dam Aurrie 3d by Airdrie Leslie, 61464, gr. d. Aurrie 1st.

SHORTHORN DAIRY PRIZES.

S. Spencer & Son, Kiantone; first prize, $100; Fillpail 7th, red and white, bred by exhibitors; calved March 15, 1886, sire Connewango Lad 9th, 68880, dam Fillpail 4th by General Clyde; 66181, gr. d Fillpail 2d by Kiantone, 26953.

A. Morse, Oxford; second prize, fifty dollars; Maid of Oxford, red and white, bred by S. N. Brown, Etna; calved February 1, 1883, sire Wild Flower's Airdrie, dam Pearl by Duke of Dryden, gr. d. Cortland Maid by General Grant.

DEVONS.

Devon Herd.

Jos. Hilton & Sons, New Scotland; large gold medal.

Bull Slam, 3887; cows, Ritie, 5582, Belle of Scotland, 6977, Petite, 9122, Cameo, 9696, Carmine, 9694.

Devon Bull and Produce

Jos. Hilton & Sons, New Scotland; large gold medal; bull Slam, 3887; produce, Freedom, 5520, Carmine, 9694, Clara Belle, 9695, Czarina.

Devon Bulls, Three Years Old or Over.

A. S. Worden, Ulysses, Pa.; first prize, fifty dollars; Lord Lynnhurst, 3971, red, bred by Wm. H. Jones & Son, South Montrose, Pa.; calved November 17, 1887, sire, Baron Lynnhurst, 2929, dam, Fairfield Bloome, 3000.

Jos. Hilton & Sons, New Scotland; second prize, twenty-five dollars; Edithson, 5192, bred by exhibitors; calved March 15, 1889, sire, Duke of Newcastle, 3837, dam, Edith 16th, 4709, by Crown Prince, 434, gr. d., Edith 12th, 3691, by Prince of Wales, 151.

Jos. Hilton & Sons, New Scotland; third prize, fifteen dollars; Slam, 3887, bred by Truman Baker, Earlville; calved March 5, 1886, sire Dandy Don, 3200, dam Fuchsia, 3206, by Genesee 2d, 616, gr. d. Alice, 424, by Huron 2d, 704.

Devon Bulls, Two Years Old.

Jos. Hilton & Sons, New Scotland; first prize, forty dollars; Bell Boy, 5193, bred by exhibitors; calved March 9, 1890, sire Prince Taurus, 2460, dam Belle of Scotland, 6976, by Prince of Wales 20th, 1395, gr. d. Edith 12th, 3691, by Prince of Wales, 151.

A. S. Worden, Ulysses, Pa.; second prize, twenty dollars; Chub, 5175, red, bred by exhibitor; calved November 8, 1889, sire Lord Lynnhurst, 3971, dam Queen of Springville 4th, 7415.

Jos. Hilton & Sons, New Scotland; third prize, ten dollars; Damson, 5519, bred by exhibitors; calved February 12, 1890, sire Prince Taurus, 2460, dam Sturdy Dame, 7314, by Prince of Wales 20th, 1395, gr. d. Ritie, 5582, by Prince of Wales 20th, 1395.

Devon Bulls, One Year Old.

A. F. Bronson, Vernon; first prize, twenty dollars; Schneider, bred by exhibitor; calved September 15, 1890, sire Devon Pride's Majesty, 3767, dam Countess of Carnaby, 5104, by Jeddo, 1809, gr. d. Victoria, 3481, by Prince Albert Victor, 227 1-2.

A. S. Worden, Ulysses, Pa.; second prize, ten dollars; Ben, 997, bred by W. J. Rudd, Eden Mills, Ontario, Canada; calved February 18, 1891, sire Young Ensign, 925, dam Flower of the Flock, 889, by Curly Tom, 886.

Jos. Hilton & Sons, New Scotland; third prize, five dollars; Freedom, 5520, bred by exhibitors; calved March 6, 1891, sire Slam, 3887, dam Sturdy Dame, 7314, by Prince of Wales 20th, 1395.

Devon Bull Calves, Over Five Months Old.

A. S. Worden, Ulysses, Pa.; first prize, ten dollars; Cobourg Prince, red, bred by Samuel Harper, Cobourg, Ontario, Canada; calved March 28, 1892, sire Rose's Duke, 929, dam Lucy, 931.

Joseph Hilton & Sons, New Scotland; second prize, five dollars; Columbus, bred by exhibitors; calved December 10, 1891, sire Slam, 3887, dam Ritie, 5582, by Prince of Wales 20th, 1395, gr. d. Provincial Maid, 4165, by King of the Ocean, 766.

Joseph Hilton & Sons, New Scotland; third prize, three dollars; Cow Boy, bred by exhibitors; calved January 25, 1892, sire Slam, 3887, dam Edith's Surprise, 7870, by Prince of Wales 20th, 1395, gr. d. Edith 12th, 3691, by Prince of Wales, 151.

Devon Cows, Four Years Old or Over.

Joseph Hilton & Sons, New Scotland; first prize, forty dollars; Belle of Scotland, 6976, bred by exhibitors; calved December 1, 1884, sire Prince of Wales 20th, 1395, dam Edith 12th, 3691, by Prince of Wales, 151, gr. d. Edith 4th, 1042, by Prince of Wales, 151.

A. S. Worden, Ulysses, Pa.; second prize, twenty dollars; Lucy, 931, red, bred by Samuel Harper, Cobourg, Ontario, Canada; calved June 2, 1885, sire Sir Walter, 834, dam Lady Dufferin, 728, by Garibaldi 2d, 717.

A. S. Worden, Ulysses, Pa.; third prize, twelve dollars; Lawn Beauty 3d, 6884, red, bred by Orrin Prichard, Springville, Pa.; calved May 25, 1886, sire Albert Banker, 1920, dam Lawn Beauty, 4066.

Devon Heifers, Three Years Old.

A. S. Worden, Ulysses, Pa.; first prize, forty dollars; Little Josey, 8210, red, bred by Chapman Bros., Wells Bridge; calved October 3, 1888, sire Model Prince, 3643, dam Josey, 1630.

Jos. Hilton & Sons, New Scotland; second prize, twenty dollars; Petite, 9122, bred by exhibitors; calved January 17, 1889, sire Prince Taurus, 2460, dam Gipsy Queen, 5581, by Prince of Wales 20th, 1395, gr. d. Mabel Ensign, 4715, by Zib, 2423.

Devon Heifers, Two Years Old.

Jos. Hilton & Sons, New Scotland; first prize, thirty dollars; Cameo, 9696, bred by exhibitors; calved March 6, 1890, sire Prince Taurus, 2460, dam Edith Hilton, 6977, by Prince of Wales 20th, 1395, gr. d. Lady Jane Edith, 4713, by Prince of Wales 20th, 1395.

Joseph Pletz & Son, Erie, Pa.; second prize, fifteen dollars; Faith, 8985, red, bred by L. P. Sisson & Son, Wheeling, W. Va.; calved February 11, 1890, sire Per Cent, 3180, dam Flossy Windham, 4652, by Cyril, 1459, gr. d. Jessie Fremont, 4651, by Lone Star, 2414.

A. S. Worden, Ulysses, Pa.; third prize, ten dollars; Adelade, 9604, red, bred by exhibitor; calved May 18, 1890, sire Matchless Prince, 4592, dam Morning Star, 8057.

Devon Heifers, One Year Old.

Jos. Hilton & Sons, New Scotland; first prize, twenty dollars; Clara Belle, 9695, bred by exhibitors; calved February 7, 1891, sire Slam, 3887, dam Miss Bos, 6974, by Prince of Wales 20th, 1395, gr. d. May Maid, 4711, by Crown Prince, 434.

A. S. Worden, Ulysses, Pa.; second prize, ten dollars; Miss T., 9605, red, bred by exhibitor; calved October 3, 1890, sire Lord Lynnhurst, 3971, dam Matchless P., 4065.

Jos. Hilton & Sons, New Scotland; third prize, five dollars; Czarina, bred by exhibitors; calved May 6, 1891, sire Slam, 3887, dam Edith's Pride, 7871, by Prince of Wales 20th, 1395, gr. d Edith 16th, 4709, by Crown Prince, 434.

Devon Heifer Calves, Over Five Months Old.

Jos. Hilton & Sons, New Scotland; first prize, ten dollars; Mermaid, bred by exhibitors; calved December 18, 1891, sire Slam, 3887, dam Petite, 9122, by Prince Taurus, 2460, gr. d. Gipsy Queen, 5581, by Prince of Wales 20th, 1395.

A. F. Bronson, Vernon; second prize, five dollars; Nancy Hanks, bred by exhibitor; calved September 5, 1891, sire Devon Pride's Majesty, 3767, dam Countess of Carnaby, 5104, by Jeddo, 1809, gr. d. Victoria, 3481, by Prince Albert Victor, 227 1-2.

Jos. Hilton & Sons, New Scotland; third prize, three dollars; Margaret, bred by exhibitors; calved January 19, 1892, sire Slam, 3887, dam Marchioness, 7876, by Prince Taurus, 2460, gr. d. Provincial Maid, 4165, by King of the Ocean, 766.

HEREFORDS.

Hereford Herd.

George N. Bissell, Milford; large gold medal.

Bull, Leatherstocking, 29998; cows, Bluestone Daisy, 32664, Bluestone Prosperity, 29474, Royalty 4th, 32963, Miss Minnie 2d, 40277, Miss Minnie, 28850, Domestic, 35725; reserve, bull Contentment, 35724.

Hereford Bull and Produce.

Geo. O. Holcomb, Troy, Pa.; large gold medal; bull, Earl of Shadeland 24th, 30721; produce, Fannie H. of Brookside, 37829, Loretta of Brookside, 42429, Erica of Brookside, 42425, Katydid of Brookside, 47149.

Hereford Bulls, Three Years Old or Over.

George N. Bissell, Milford; first prize, fifty dollars; Leatherstocking, 29998, bred by C. & A. Bissell, Milford; calved February 11, 1887, sire Hampton Wilton, 22593, dam Helena, 22589, by Hotspur, 21721, gr. d. Pretty 4th, 22590, by Patentee 2d, 14567.

George N. Bissell, Milford; second prize, twenty-five dollars; Contentment, 35724, bred by exhibitor; calved December 5, 1888, sire Hampton Wilton, 22593, dam Prosperity, 22591, by Torro, 18072, gr. d. Hopeful 2d, 22592, by Cremorne, 3061.

Geo. O. Holcomb, Troy, Pa.; third prize, fifteen dollars; Earl of Shadeland 24th, 30721, red and white, bred by Adams Earl, Lafayette, Ind.; calved October 31, 1886, sire Garfield, 7015, dam Lady Wilton 3d.

Hereford Bulls, One Year Old.

George N. Bissell, Milford; first prize, twenty dollars; Natty Bumppo, bred by exhibitor; calved December 13, 1890, sire Leatherstocking, 29998, dam 2d Bluestone Cocoanut, 35734, by Hampton Wilton, 22593, gr. d. Cocoanut 3d, 15320, by Hartington, 4010.

Geo. O. Holcomb, Troy, Pa; second prize, ten dollars; Sir Rodney of Brookside, 41751, red and white, bred by exhibitor; calved February 26, 1891, sire Earl of Shadeland 24th, 30721, dam Lady Wilton 33d, 30762.

Hereford Bull Calves, Over Five Months Old.

Geo. O. Holcomb, Troy, Pa; first prize, ten dollars; Sir Bartle of Brookside, red and white, bred by exhibitor; calved February 26, 1892, sire Earl of Shadeland 24th, 30721, dam Edenia 5th, 30733.

George N. Bissell, Milford; second prize, five dollars; bred by exhibitor; calved December 15, 1891, sire Leatherstocking, 29998, dam 2d Bluestone Cocoanut, 35734, by Hampton Wilton, 22593, gr. d. Cocoanut, 15320, by Harrington, 4010.

Hereford Cows, Four Years Old or Over.

Geo. O. Holcomb, Troy, Pa.; first prize, forty dollars; Ora B. of Brookside, 34089, red and white, bred by Adams Earl, Lafayette, Ind.; calved October 18, 1887, sire Garfield, 7015, dam Estella.

George N. Bissell, Millford; second prize, twenty dollars; Bluestone Daisy, 32664, bred by exhibitor; calved August 29, 1887, sire Hampton Wilton, 22593, dam Daisy, 17116, by Premier, 17723, gr. d. Spot, 17717 by Lulham, 17725.

George N. Bissell, Milford; third prize, twelve dollars; Bluestone Prosperity, 29474, bred by exhibitor; calved December 19, 1886, sire Hampton Wilton, 22593, dam Prosperity, 22591, by Torro, 18072, gr. d. Hopeful 2d, 22592, by Cremorne, 3061.

Hereford Heifers, Three Years Old.

Geo. O. Holcomb, Troy, Pa.; first prize, forty dollars; Annie H. of Brookside, 37824, red and white, bred by exhibitor; calved February 14, 1889, sire Earl of Wilton 23d, dam Lily of the Valley, 12785.

George N. Bissell, Milford; second prize, twenty dollars; Domestic, 35725, bred by exhibitor; calved November 12, 1888, sire Hampton Wilton, 22593, dam Miss Nobleman 7th, 17744, by King of Hearts, 9874, gr. d. Miss Nobleman 4th, 14647, by Hildebrand, 2535.

Geo. O. Holcomb, Troy. Pa.; third prize, twelve dollars; Fannie H. of Brookside, 37829, red and white, bred by exhibitor; calved April 25, 1889, sire Earl of Shadeland 24th, 30721, dam Ora B. of Brookside, 34089.

Hereford Heifers, Two Years Old.

Geo. O. Holcomb, Troy, Pa; first prize, thirty dollars; Loretta of Brookside, 42429, red and white, bred by exhibitor; calved March 25, 1890, sire Earl of Shadeland 24th, 30721, dam Lady Wilton 33d, 30762.

George N. Bissell, Milford; second prize, fifteen dollars; Miss Minnie 2d, 40277, bred by exhibitor; calved January 10, 1890, sire Hampton Wilton, 22593, dam Miss Minnie, 28850, by Cassio, 11353, gr d. Minnie 8th, 10576, by Irvington Boy, 7790.

Geo. O. Holcomb, Troy, Pa; third prize, ten dollars; Erica of Brookside, 42425, red and white, bred by exhibitor; calved March 22, 1890, sire Earl of Shadeland 24th, 30721, dam Erica 4th.

Hereford Heifers, One Year Old.

Geo. O. Holcomb, Troy, Pa; first prize, twenty dollars; Katydid of Brookside, 47149, red and white, bred by exhibitor; calved August 5, 1891, sire Earl of Shadeland 24th, 30721, dam Lily of the Valley, 12785.

Hereford Heifer Calves, Over Five Months Old.

Geo. O. Holcomb, Troy, Pa.; first prize, ten dollars; Madeline of Brookside, red and white, bred by exhibitor; calved February 7, 1892, sire Earl of Shadeland 24th, 30721, dam Estella.

George N. Bissell, Milford; second prize, five dollars; Plenty, bred by exhibitor; calved January 5, 1892, dam Prosperity, 29474, by Torro, 18072, gr. d. Hopeful 2d, 22592, by Cremorne, 3061.

ABERDEEN-ANGUS.

Aberdeen-Angus Herd.

A. M. Kent, Jamestown; large gold medal.

Bull, Ludolph, 9849; cows, Maid of Busti. 8395, Lady Aliment, 9120, Duchess Vera, 11989, Herd Girl 2d, 15751, Maid of Busti 3d, 15753.

Aberdeen-Angus Bulls and Produce.

J. P. Hine, Shinrock, Ohio; large gold medal; bull, Lord Hillhurst, 3990; produce, Valentia, 8044, Lady Forbes of Compton, 11115, Profit, 13151, Lord Forbes H., 16495.

Aberdeen-Angus Bulls Three Years Old or Over.

J. P. Hine, Shinrock, Ohio; first prize, fifty dollars; Lord Hillhurst, 3990, black, bred by M. H. Cochrane, Hillhurst, Canada; calved February 2, 1884, sire, Paris 3d, 1163, dam Lady Ida 2d, 1920, by Gravenwood, 1444, gr. d. Lady Ida, 686, by Black Diamond, 543.

A. M. Kent, Jamestown; second prize, twenty-five dollars; Ludolph, 9849, black, bred by Hay & Paton, New Lowell, Canada; calved October 8, 1888, sire Heather Chief of Kinnoul Park, 8186, dam Lucy of Kinnoul Park, 8182.

Aberdeen-Angus Bulls, Two Years Old.

A. M. Kent, Jamestown; first prize, forty dollars; Busti Boy, 15749, black, bred by exhibitor; calved January 4, 1890, sire Stillwater Chief, 8397, dam Mayflower of Advie 4th, 1998.

Aberdeen-Angus Bulls, One Year Old.

A. M. Kent, Jamestown; first prize, twenty dollars; Stillwater Chief 2d, 15748, black, bred by exhibitor; calved January 4, 1891, sire Stillwater Chief, 8397, dam Dasie, 9805.

J. P. Hine, Shinrock, Ohio; second prize, ten dollars; Douglass, 13863, black, bred by exhibitor; calved January 9, 1891, sire Baronet of Advie, 1226, dam Damask, 8604, by Garfield, 5928, gr. d. Dolly Varden of Milan, 2000, by Baronet of Advie, 1226.

J. P. Hine, Shinrock, Ohio; third prize, five dollars; Lord Forbes H., 16495, black, bred by M. H. Cochrane, Hillhurst, Canada; calved July 27, 1891, sire Lord Hillhurst, 3990, dam Lady Hillhurst Forbes, 3911, by Paris 3d, 1163, gr. d. Young Lady Forbes 2d, 1105, by Duke of Easttown, 1113.

Aberdeen-Angus Bull Calves, Over Five Months Old.

A. M. Kent, Jamestown; first prize, ten dollars; Ludolph 2d, black, bred by exhibitor; calved December 17, 1891, sire Ludolph, 9849, dam Maid of Busti, 8395.

J. P. Hine, Shinrock, Ohio; second prize, five dollars; Douglass A., 16500, black, bred by exhibitor; calved November 18, 1891, sire Fancy Fellow, 8605, dam Damask, 8604, by Garfield, 5928, gr. d. Dolly Varden of Milan, 2000, by Baronet of Advie, 1226.

Aberdeen-Angus Cows, Four Years Old or Over.

J. P. Hine, Shinrock, Ohio; first prize, forty dollars; Lady Ida Hillhurst, 3991, black, bred by M. H. Cochrane, Hillhurst, Canada; calved January 27, 1883, sire Young Hero, 1921, dam Lady Ida 2d, 1920, by Gavenwood, 1444, gr. d. Lady Ida, 686, by Black Diamond, 546.

A. M. Kent, Jamestown; second prize, twenty dollars; Maid of Busti, 8395, black, bred by M. H. Cochrane, Hillhurst, Canada;

calved December 27, 1884, sire Paris 3d, 1163, dam Herd Girl, 3861.

J. P. Hine, Shinrock, Ohio; third prize, twelve dollars; Valentia, 8044, black, bred by M. H. Cochrane, Hillhurst, Canada; calved February 17, 1887, sire Lord Hillhurst, 3990, dam Vine 2d of Skein, 3947, by His Lordship, 1495, gr. d. Vine of Auchlossan, 3948, by Duke of Perth, 484.

Aberdeen-Angus Heifers, Three Years Old.

A. M. Kent, Jamestown; first prize, forty dollars; Lady Aliment, 9120, black, bred by Mossoin, Boyd & Co., Canada; calved March 13, 1888, sire Ermine Bearer, 1749, dam Lady Abington, 2721.

J. P. Hine, Shinrock, Ohio; second prize, twenty dollars; Lady Forbes of Compton, 11115, black, bred by M. H. Cochrane, Hillhurst, Canada; calved September 29, 1888, sire Lord Hillhurst, 3990, dam Young Lady Forbes 2d, 1105, by Duke of East town, 1113, gr. d. Young Lady Forbes, 1106.

Aberdeen-Angus Heifers, Two Years Old.

A. M. Kent, Jamestown; first prize, thirty dollars; Duchess Vera, 11989, bred by F. M. Mills, Des Moines, Iowa; calved September 2, 1889, sire Ranger, 3553, dam Duchess of Vernham, 2748.

H. H. Hine & Son, Painesville, Ohio; second prize, fifteen dollars; Daisy H., 12890, black, bred by exhibitors; calved August 8, 1890, sire President Cleveland, 4889, dam Agnes of Riverside, by Lord Benton, 4498, gr. d. Miss Jennie 6th, 4882, by Conny Chief, 2874.

Aberdeen-Angus Heifers, One Year Old.

A. M. Kent, Jamestown; first prize, twenty dollars; Maid of Busti 3d, 15753, black, bred by exhibitor; calved December 5, 1890, sire Stillwater Chief, 8397, dam Maid of Busti, 8395.

A. M. Kent, Jamestown; second prize, ten dollars; Herd Girl 2d, 15751, black, bred by exhibitor; calved November 4, 1890, sire Black Prince, 8393, dam Herd Girl, 3861.

J. P. Hine, Shinrock, Ohio; third prize, five dollars; Patti A., 13864, black, bred by exhibitor; calved February 14, 1891, sire Pelig, 10243, dam Pensis, 10491, by Rubicon, 6534, gr. d. Patti, 6537, by Paris 3d, 1163.

Aberdeen-Angus Heifer Calves, Over Five Months Old.

A. M. Kent, Jamestown; first prize, ten dollars; Waterside Night Girl 5th, black, bred by exhibitor; calved February 1, 1892, sire Ludolph, 9849, dam Waterside Night Girl 3d, 8402.

BROWN SWISS.

Brown Swiss Herd.

B. F. Nutting, Woodville; large gold medal.

Bull, Duke of Kent, 245; cows, Daffodil 3d, 384, Lady Jefferson Tell, 756, Fanny Jefferson Tell, 759, Brownie Tell, 758, Queenie Tell, 757.

Brown Swiss Bull and Produce.

B. F. Nutting, Woodville; large gold medal; bull, Chetwood Tell of Lehigh, 222; produce, Fanny Jefferson Tell, 759, Lady Jefferson Tell, 756, Brownie Tell, 758, Queenie Tell, 757.

Brown Swiss Bulls, Three Years Old or Over.

A. M. Kent, Jamestown; first prize, fifty dollars; Duke of Kent 2d, 521, brown, bred by exhibitor; calved December 4, 1888, sire Duke of Kent, 245, dam Eldelwess, 298.

B. F. Nutting, Woodville; second prize, twenty-five dollars; Duke of Kent, 245, bred by John B. Eldredge, Middle Falls; calved April 12, 1886, sire Bonaparte, 141, dam Bar, 251.

J. A. Bancroft, Worcester, Mass.; third prize, fifteen dollars; Barnard Tell, 128, bred by exhibitor; calved July 14, 1883, sire Asa Tell, 63, dam Delia, 85, by David G. Tell, 31, gr. d. Rachel, 61, by Harry Tell, 13.

Brown Swiss Bulls, Two Years Old.

A. M. Kent, Jamestown; first prize, forty dollars; Duke of Kent 4th, 523, brown, bred by exhibitor; calved April 15, 1890, sire Duke of Kent, 245, dam Wild Rose, 343.

J. A. Bancroft, Worcester, Mass.; second prize, twenty dollars; Gid, 457, bred by exhibitor; calved September 12, 1889, sire Barnard Tell, 128, dam Delia, 85, by David G. Tell, 31, gr. d. Rachel, 61, by Harry Tell, 13.

Brown Swiss Bulls, One Year Old.

J. A. Bancroft, Worcester, Mass.; first prize, twenty dollars; Medo, 517, bred by exhibitor; calved March 10, 1891, sire Stowell Tell, 327, dam Grace, 60, by Charley Tell, 7, gr. d. Lady Warwick, 29, by William Tell, Jr., 4.

Brown Swiss Bull Calves, Over Five Months Old.

J. A. Bancroft, Worcester, Mass.; first prize, ten dollars; Gano, 536, bred by exhibitor; calved September 8, 1891, sire Barnard Tell, 128, dam Alena, 366, by Nyon Tell, 83, gr. d. Rachel, 61, by Harry Tell, 13.

B. F. Nutting, Woodville; second prize, five dollars; William D. Tell, bred by exhibitor; calved April 1, 1892, sire Jot, 418, dam Lady Jefferson Tell, 756.

A. M. Kent, Jamestown; third prize, three dollars; Duke of Kent 5th, brown, bred by exhibitor; calved June 1, 1892, sire Duke of Kent, 245, dam Stillwater, 645.

Brown Swiss Cows, Four Years Old or Over.

J. A. Bancroft, Worcester, Mass.; first prize, forty dollars; Lira, 367, bred by exhibitor; calved May 10, 1886, sire David G. Tell, 31, dam Ethel, 14, by William Tell, 1, imported, gr. d. Lucerne, 2, imported.

B. F. Nutting, Woodville; second prize, twenty dollars; Daffodil 3d, 384, brown, bred by exhibitor; calved August 23, 1885, sire Albert Tell, Jr., 58, dam Daffodil, 20.

A. M. Kent, Jamestown; third prize, twelve dollars; Eldelwess, 298, brown, bred by John B. Eldredge, Middle Falls; calved April 2, 1885, sire Bonaparte, 141, dam Browny, 209.

Brown Swiss Heifers, Three Years Old.

B. F. Nutting, Woodville; first prize, forty dollars; Martha Tell, brown, bred by exhibitor; calved May 31, 1889, sire Chetwood Tell of Lehigh, 222, dam Lady Jefferson Tell, 756.

A. M. Kent, Jamestown; first prize, twenty dollars; Wild Rose 2d, 771, brown bred by exhibitor; calved December 8, 1888, sire Duke of Kent, 245, dam Wild Rose, 343.

J. A. Bancroft, Worcester, Mass.; third prize, twelve dollars; Ethelia, 584, bred by exhibitor; calved March 13, 1889, sire Barnard Tell, 128, dam Ethel, 14, by William Tell, 1, imported, gr. d. Lucerne, 2, imported.

Brown Swiss Heifers, Two Years Old.

B. F. Nutting, Woodville; first prize, thirty dollars; Fanny Jefferson Tell, 759, brown, bred by exhibitor; calved December 29, 1889, sire Chetwood Tell of Lehigh, 222, dam Lady Jefferson Tell, 756.

B. F. Nutting, Woodville; second prize, fifteen dollars; Brownie Tell, 758, brown, bred by exhibitor; calved March 19, 1890, sire Chetwood Tell of Lehigh, 222, dam Daffodil, 20.

J. A. Bancroft, Worcester, Mass.; third prize, ten dollars; Rubena, 763, bred by exhibitor; calved August 30, 1890, sire Barnard Tell, 128, dam Delia, 85, by David G. Tell, 31, gr. d. Rachel, 61, by Harry Tell, 13.

Brown Swiss Heifers, One Year Old.

J. A. Bancroft, Worcester, Mass.; first prize, twenty dollars; Wanda 3d, bred by exhibitor; calved May 25, 1891, sire Darius, 321, dam Wanda, 477, by Plato, 216, gr. d. Ethel, 14, by Wm. Tell 1, imported.

B. F. Nutting, Woodville; second prize, ten dollars; Salome Tell, brown, bred by exhibitor; calved March 19, 1891, sire Jot, 418, dam Queenie Tell, 757.

A. M. Kent, Jamestown; third prize, five dollars; Stillwater 2d, 772, brown, bred by exhibitor; calved November 15, 1890, sire Duke of Kent, 245, dam Stillwater, 645.

Brown Swiss Heifer Calves, Over Five Months Old.

J. A. Bancroft, Worcester, Mass.; first prize, ten dollars; Jule, 787, bred by exhibitor; calved September 24, 1891, sire Darius, 321, dam Gloria, 311, by Nyon Tell, 83, gr. d. Ethel, 14, by Wm. Tell, 1, imported.

J. A. Bancroft, Worcester, Mass.; second prize, five dollars; Roxana, 832, bred by exhibitor; calved March 15, 1892, sire Gid, 457, dam Delia, 85, by David G. Tell, 31, gr. d. Rachel, 61, by Harry Tell, 13.

Red-Polls.

Red-Polled Herd.

Geo. P. Squires & Son, Marathon; large gold medal.

Bull, Advent, 2162; cows, Midget, 4204, Henna, 5530, Ideal, 6441, Indian Maid, 5556, Advantage, 6145.

Red-Polled Bulls, Three Years Old or Over.

D. B. Dunning, Chazy; first prize, fifty dollars; Bub, 1471, red, bred by exhibitor; calved February 28, 1888, sire Rupert, 746, dam Princess May, 1754, by Crown Prince, 281, gr. d. Thornham Princess, 1230, by Eclipse 2d, 299.

D. B. Dunning, Chazy; second prize, twenty-five dollars; Jacob 1875, red, bred by exhibitor; calved April 22, 1889, sire Yankee Duke, 1333, dam Princess May, 1754, by Crown Prince, 281, gr. d. Thornham Princess, 1230, by Eclipse 2d, 299.

Red-Polled Bulls, Two Years Old.

Geo. P. Squires & Son, Marathon; first prize, forty dollars; Advent, 2162, red, bred by G. F. Taber, Patterson; calved May 15, 1890, sire Falstaff, 303, dam Rosalie, 1786, by Champion, 271, gr. d. Rachel, 1121, by Ravinewood Beau, 160.

Red-Polled Bulls, One Year Old.

D. B. Dunning, Chazy; first prize, twenty dollars; Doctor, red, bred by exhibitor; calved April 21, 1891, sire Bub, 1471, dam Cinderella 2d, 5347, by Spotless Champion, 1080, gr. d. Cinderella, 1393, by Champion, 271.

Red-Polled Bull Calves, Over Five Months Old.

D. B. Dunning, Chazy; first prize, ten dollars; Nabob, red, bred by exhibitor; calved December 8, 1891, sire Yankee Duke, 1333, dam Sis, 5968, by Rupert, 746, gr. d. Elmer 2d, 2780, by Red Head 2d, 553.

Geo. P. Squires & Son, Marathon; second prize, five dollars; Cecil, red, bred by exhibitor; calved March 1, 1892, sire Hiawatha, 1862, dam Bridget of Troston, 2041, by Stout, 581, gr. d. Bridesmaid 2d, 721, by Rudham Hero, 183.

Red-Polled Cows, Four Years Old or Over.

D. B. Dunning, Chazy; first prize, forty dollars; Emma, 2784, red, bred by R. H. Mason, England; calved September 9, 1883, sire Starston Duke, 570, dam Rosebud, 1803, by Osman, 531, gr. d. Rose 2d, 1143, by Longham, 104.

Geo. P. Squires & Son, Marathon; second prize, twenty dollars; Midget, 4204, red, bred by exhibitors; calved December 30, 1886, sire Rinaldo, 737, dam Bridget of Troston, 2041, by Stout, 581, gr. d. Bridesmaid 2d, 721, by Rudham Hero, 183.

D. B. Dunning, Chazy; third prize, twelve dollars; Princess May, 1754, red, bred by Lord Henniker, England; calved May 30, 1880, sire Crown Prince, 281, dam Thornham Princess, 1230, by Eclipse 2d, 299, gr. d. Thursford Queen, 1231, by Tenant Farmer, 213.

Red-Polled Heifers, Three Years Old.

Geo. P. Squires & Son, Marathon; first prize, forty dollars; Indian Maid, 5556, red, bred by Jas. C. Carmalt, Clinton; calved April 24, 1889, sire Gladstone, 1839, dam Martha, 1662, by Ravinewood Beau, 160, gr. d. Ocean Maid, by Hero 3d, 87.

Geo. P. Squires & Son, Marathon; second prize, twenty dollars; Idea, 6441, red, bred by Jas. C. Carmalt, Clinton; calved February 14, 1889, sire Gladstone, 1839, dam Eola, 6337, by Scranton Aesthete, 749, gr. d. Martha, 1662, by Ravinewood Beau, 160.

D. B. Dunning, Chazy; third prize, twelve dollars; Creampot, 5372, red, bred by exhibitor; calved October 30, 1888, sire Yankee Duke, 1333, dam Cinderella 2d, 5347, by Spotless Champion, 1080, gr. d. Cinderella, 1393, by Champion, 271.

Red-Polled Heifers, Two Years Old.

Geo. P. Squires & Son, Marathon; first prize, thirty dollars; Advantage, 6145, red, bred by G. F. Taber, Patterson; calved July 15, 1890, sire Falstaff, 303, dam Christina, 792, by Rufus, 188, gr. d. Cauliflower 3d, 82, by Sampson, 191.

Geo. P. Squires & Son, Marathon; second prize, fifteen dollars; Jubilee, 6459, red, bred by C. C. Carmalt, Clinton; calved October 21, 1890, sire Handy Andy, 1849, dam Eola, 6337, by Scranton Aesthete, gr. d. Martha, 1662, by Ravinewood Beau, 160.

D. B. Dunning, Chazy; third prize, ten dollars; Mrs. Winslow, 5774, red, bred by exhibitor; calved October 27, 1889, sire Yankee Duke, 1333, dam Sis, 5968, by Rupert, 746, gr. d. Elmer 2d, 2780, by Red Head 2d, 553.

Red-Polled Heifers, One Year Old.

Geo. P. Squires & Son, Marathon; first prize, twenty dollars; Belle S., red, bred by exhibitors; calved August 20, 1891, sire Hiawatha, 1862, dam Rosaline, 1786, by Champion, 271, gr. d. Rachael, 1121, by Ravinewood Beau, 160.

D. B. Dunning, Chazy; second prize, ten dollars; Sue, 6794, red, bred by exhibitor; calved December 9, 1890, sire Yankee Duke, 1333, dam Sis, 5968, by Rupert, 746, gr. d. Elmer 2d, 2780, by Red Head 2d, 553.

Geo. P. Squires & Son, Marathon; third prize, five dollars; Justina, 6468, red, bred by C. C. Carmalt, Clinton; calved November 6, 1891, sire Garulous, 1831, dam Henna, 3530, by Romano, 924, gr. d. Martha, 1662, by Ravinewood Beau, 160.

Red-Polled Heifer Calves, Over Five Months Old.

D. B. Dunning, Chazy; first prize, ten dollars; Jessie, red, bred by exhibitor; calved October 14, 1891, sire Bub, 1471, dam Emma, 2784, by Starston Duke, 570, gr. d. Rosebud, 1803, by Osman, 531.

Geo. P. Squires & Son, Marathon; second prize, five dollars; Celia, red, bred by exhibitor; calved February 11, 1892, sire Hiawatha, 1862, dam Idea, 6441, by Gladstone, 1839, gr. d. Eola, 6337, by Scranton Aesthete, 749.

HOLSTEIN-FRIESIAN.

Holstein-Friesian Herd.

D. F. Wilber, Oneonta; large gold medal.

Bull, Sir Henry of Maplewood.

Holstein-Friesian Bull and Produce.

Smiths & Powell, Syracuse; large gold medal; bull, Netherland Statesman, 3280.

Holstein-Friesian Bulls, Three Years Old or Over.

D. F. Wilber, Oneonta; first prize, fifty dollars; Sir Henry of Maplewood, 2933, black and white, bred by Gerritt S. Miller, Peterboro; calved April 24, 1884, sire Hulleman, dam Ononis, by Empire.

D. F. Wilber, Oneonta; second prize, twenty-five dollars; Clothilde 5th's Netherland,13105, black and white, bred by Smiths, Powell & Lamb, Syracuse; calved March 11, 1889, sire Netherland Statesman, dam Clothilde 5th, gr. d. Clothilde.

Smiths & Powell, Syracuse; third prize, fifteen dollars; Netherland Statesman, 3280, white and black, bred by exhibitors; calved August 15, 1884, sire Netherland Prince, 716, dam Lady Fay, 4470, imported, gr. d. Marie.

Holstein-Friesian Bulls, Two Years Old.

D. F. Wilber, Oneonta; first prize, forty dollars; Count Artis Clothilde.

Smiths & Powell, Syracuse; second prize, twenty dollars; Count Aaggie Clothilde, 16209, black and white, bred by exhibitors; calved July 22, 1890, sire Count Clothilde, 9915, dam Aaggie's 3d Daughter, 1597, by Netherland Prince, 716, gr. d. Aaggie, 901, by Rooker.

D. F. Wilber, Oneonta; third prize, ten dollars; Tiranias Sir Mechthilde, 19469, black and white, bred by F. C. Stevens, Attica; calved August 4, 1890, sire Mechthilde Sir Henry of Maplewood, dam Tirania, gr. d. Mechthilde.

Holstein-Friesian Bulls, One Year Old.

D. F. Wilber, Oneonta; first prize, twenty dollars; Sir Galatia Colanthus, 17897, black and white, bred by R. S. Stevens, Attica; calved March 15, 1891, sire Colantha's 2d's Sir Henry, dam Galatia, gr. d. Laura.

Smiths & Powell, Syracuse; second prize, ten dollars; Aegis Netherland Clothilde, 17251, black and white, bred by exhibitors; calved November 6, 1890, sire Sir Netherland Clothilde, 8517, dam Aegis 10th, 4941, by Netherland Prince, 716, gr. d. Aegis, 69, by Rip Van Winkle, 35.

Smiths & Powell, Syracuse; third prize, five dollars; Peeress Sir Netherland, 17665, white and black, bred by exhibitors; calved July 9, 1891, sire Sir Netherland Clothilde, 8517, dam Netherland Peeress, 2640, imported.

Holstein-Friesian Bull Calves, Over Five Months Old.

Smiths & Powell, Syracuse; first prize, ten dollars; Aaggie Beauty 2d's Statesman, 18169, white and black, bred by exhibitors; calved October 14, 1891, sire Netherland Statesman, 3280, dam Aaggie Beauty 2d, 2631, by Jacob 2d (N. H. B. 56), gr. d. Aaggie Beauty, 2907, by Jacob 2d (N. H. B. 56).

D. F. Wilber, Oneonta; second prize, five dollars; Neko's Artis, 19051, black and white, bred by Charles Robinson & Son, Barre Plains, Mass.; calved March 23, 1892, sire Artis Pier, dam Loreo Neko, gr. d. Gertje.

Smiths & Powell, Syracuse; third prize, three dollars; Netherland Monk's Rollo, 19035, white and black, bred by exhibitors; calved December 1, 1891, sire Netherland Monk, 4424, dam Artis Rollora, 7000, imported, by Artis (N. H. B. 127).

Holstein-Friesian Cows, Four Years Old or Over.

Smiths & Powell, Syracuse; first prize, forty dollars; Executrix, imported, black and white, calved March 15, 1882, sire Willem (N. H. B. 84), dam Stapel.

D. F. Wilber, Oneonta; second prize, twenty dollars; De Kol 2d's Queen, 6324, black and white, bred by J. B. Dutcher, Pawling; calved February 11, 1887, sire Forster, dam De Kol 2d.

D. F. Wilber, Oneonta; third prize, twelve dollars; Inka 4th, 1093, black and white, bred by Henry Stevens, Lacona; calved February 19, 1884, sire Victor Bruinsma, dam Inka.

Holstein-Friesian Heifers, Three Years Old.

D. F. Wilber, Oneonta; first prize, forty dollars; Aaggie Constance Netherland, 16532, black and white, bred by Smiths, Powell & Lamb, Syracuse; calved March 15, 1889, sire Netherland Prince, dam Aaggie Constance.

Smiths & Powell, Syracuse; second prize, twenty dollars; Netherland Grace, 17052, black and white, bred by exhibitors; calved

August 14, 1889, sire Netherland Prince, 716, dam Aaggie Cornelia 3d, 4342, by Alexander (N. H. B. 83), gr. d. Aaggie Cornelia, 4410, imported.

Smiths & Powell, Syracuse; third prize, twelve dollars; Clothilde 4th's Netherland, 16528, black and white, bred by exhibitors; calved February 25, 1889, sire Netherland Statesman, 3280, dam Clothilde 4th, 3480, by Netherland Prince, 716, gr. d. Clothilde, 1308.

Holstein-Friesian Heifers, Two Years Old.

D. F. Wilber, Oneonta; first prize, thirty dollars; Irene Barnum, 20401, black and white, bred by J. B. Dutcher, Pawling; calved March 31, 1890, sire Netherland Rupert, dam Dora Barnum, gr. d. Jessie Barnum.

D. F. Wilber, Oneonta; second prize, fifteen dollars; Intje Von Holinger, 21515, black and white; calved February 16, 1890, sire Clothilde 4th's Arits, dam Intje 2d.

Smiths & Powell, Syracuse; third prize, ten dollars; Kaan's Marie 2d's Von Holingen, 21514, black and white, bred by J. R. McPherson, Belle Mead, N. J.; calved February 14, 1890, sire Clothilde 4th's Artis, 5488, dam Kaan's Marie 2d, 11098, by Archibald (D. F. H. B. 383), gr. d. Kaan's Marie (D. F. H. B. 810) by Graaf Adolph (N. H. B. 98).

Holstein-Friesian Heifers, One Year Old.

Smiths & Powell, Syracuse; first prize, twenty dollars; Executrix Clothilde, 26511, bred by exhibitors; calved June 25, 1891, sire Sir Netherland Clothilde, 8517, dam Executrix, 4401, imported.

D. F. Wilber, Oneonta; second prize, ten dollars; Maud D. 2d, bred by George W. Davis, Middleport; sire Constantine's Sir Henry, dam Maud D.

D. F. Wilber, Oneonta; third prize, five dollars; Clothilde Peeress, 26283, black and white, bred by exhibitor; calved April 12, 1891, sire Clothilde 5th's Netherland, dam Peeress Netherland Clothilde.

Holstein-Friesian Calves, Over Five Months Old.

D. F. Wilber, Oneonta; first prize, ten dollars; Pauline Paul 2d, 26956, black and white, bred by J. B. Dutcher, Pawling; calved September 14, 1891, sire Dekol 2d's Netherland, dam Pauline Paul.

D. F. Wilber, Oneonta; second prize, five dollars; Countess Inka Pietertje, 30530, black and white, bred by Henry Stevens, Lacona; calved October 12, 1891, sire Milla's Pietertje Netherland, dam Inka Darkness.

Smiths & Powell, Syracuse; third prize, three dollars; Lady Griswold's Clothilde, 30145, black and white, bred by exhibitors; calved March 22, 1892, sire Clothilde's 6th Statesman, 13098, dam Lady Griswold, 6878, imported.

DUTCH BELTED.

Dutch Belted Herd

John A. Sanford, Goshen; large gold medal.

Bull, Honest Cleveland, 104; cows, Lady Clarence, 41, Lily of the Valley, 321, Dellie H., 322, Euro, 363, Lady Sanford, 458.

Dutch Belted Bull and Produce.

John A. Sanford, Goshen; large gold medal; bull, Duke of Orange, 15; produce, Honest Cleveland, 104, Lily of the Valley, 321, Dellia H, 322, Lady Sanford, 458.

Dutch Belted Bulls, Three Years Old or Over.

John A. Sanford, Goshen; first prize, fifty dollars; Honest Cleveland, 104, black and white, bred by exhibitor; calved October 25, 1888, sire Duke of Orange, 15, dam Lady Clarence, 41, by Blackman Prince, 14.

Dutch Belted Bulls, One Year Old.

John A. Sanford, Goshen; first prize, twenty dollars; Charles the Great, 160, black and white, bred by exhibitor; calved October 5, 1890, sire Honest Cleveland, 104, dam Young Annie Lee.

Dutch Belted Bull Calves, Over Five Months Old.

John A. Sanford, Goshen; first prize, ten dollars; Prince Edward, 202, black and white, bred by exhibitor; calved April 6, 1892, sire Honest Cleveland, 104, dam Lily of the Valley, 321, by Duke of Orange, 15, gr. d. Nellie Grant.

Dutch Belted Cows, Four Years Old or Over.

John A. Sanford, Goshen; first prize, forty dollars; Lady Clarence, 41, black and white, bred by exhibitor; calved March, 1885, sire Backman Prince, 14.

Dutch Belted Heifers, Three Years Old.

John A. Sanford, Goshen; first prize, forty dollars; Euro, 363, black and white, bred by J. A. Holbert, Goshen; calved January 3, 1889, sire Smuggler, dam Gypsy.

Dutch Belted Heifers, Two Years Old.

John A. Sanford, Goshen; first prize, thirty dollars; Ida Oakley, 457, black and white, bred by exhibitor; calved June 12, 1890, sire Duke of Orange, 15, dam Daisy Green, by Backman Prince, 14, gr. d. Jennie Lee.

Dutch Belted Heifers, One Year Old.

John A. Sanford, Goshen; first prize, twenty dollars; Queen of Promise, 502, black and white, bred by exhibitor; calved March 20, 1891, sire Honest Cleveland, dam Clara Queen of Orange, gr. d. Lady Topsy.

Dutch Belted Heifer Calves, Over Five Months Old.

John A. Sanford, Goshen; first prize, ten dollars; Clara Sanford, 565, black and white, bred by exhibitor; calved February 1, 1892, sire Honest Cleveland, 104, gr. d. Beauty of Goshen.

AYRSHIRES.

Ayrshire Herd.

J. F. Converse, Woodville; large gold medal.

Ayrshire Bull and Produce.

J. F. Converse, Woodville; large gold medal; bull, Major Drummond, 2006; produce, Clara Belle, 8083, Della Pender, 8077, Hopeful Belle, 8067, Bessie Drummond, 9144.

Ayrshire Bulls, Three Years Old or Over.

G. H. Bell, Rome; first prize, fifty dollars; Dandy Lad, 4513, red and white, bred by exhibitor; calved September 3, 1887, sire King of the Farm, 4166, dam Draxy's Daughter, 5620, by Gansevoort, 2612, gr. d. Draxy Miller, 5619, by Treasurer, 1509.

W. G. Tucker, Elm Valley; second prize, twenty-five dollars; Major Morton, 4572, red with little white, bred by exhibitor; calved March 20, 1888, sire Major Clyde, 3988, dam Aldine, 7704, by Sandy, 837, gr. d. Florence, 2405.

J. F. Converse, Woodville; third prize, fifteen dollars; Major Drummond, 2006, red, bred by James Drummond, Montreal, Province Quebec, Canada; calved March 18, 1876, sire Sir Roger, 868, imported, dam Medora, 3676, imported.

Ayrshire Bulls, Two Years Old.

J. F. Converse, Woodville; first prize, forty dollars; Ossidine, 4885, red, bred by exhibitor; calved July 8, 1890, sire Enoch, 3757, dam Golden Dreams, 8076, by Major Drummond, 2006.

E. H. & C. S. Barney, Milford; second prize, twenty dollars; Duke of Shade Park, 5054, red and white, bred by J. F. Converse, Woodville; calved March 25, 1890, sire Enoch, 3757, dam Clara Neil, 9140, by Major Drummond, 26.

W. G. Tucker, Elm Valley; third prize, ten dollars; Dandy Hebron, 4941, red and white, bred by exhibitor; calved April 7, 1890, sire Hebron, Jr., 4226, dam Myrta, 8261, by Jack Wells, 2497, gr. d. Carrie, 2150, by Sandy, 837.

Ayrshire Bulls, One Year Old.

J. F. Converse, Woodville; first prize, twenty dollars; Carlton Victor, dark red, bred by exhibitor; calved March, 1891, sire Enoch, 3757, dam Clarissa, 6618, by Prince Charley, 1689.

E. H. & C. S. Barney, Milford; second prize, ten dollars; Susquehanna Chief, red and white, bred by exhibitors; calved August 17, 1891, sire Casino, 3900, dam Bonnie Nannie 3d, 10330.

G. H. Bell, Rome; third prize, five dollars; King of the Park, 5224, red and white, bred by exhibitor; calved January 7, 1891, sire Dandy Lad, 4513, dam Lillie, 7146, by Kilmarnock 2d, 9611, gr. d. Droxy Miller by Treasurer, 1509.

Ayrshire Bull Calves, Over Five Months Old.

J. F. Converse, Woodville; first prize, ten dollars; Merry Legs, red and white, bred by exhibitor; calved March, 1892, sire Major Drummond, 2006, dam White Wings, 1086.

W. G. Tucker, Elm Valley; second prize, five dollars; Chief, red and white, bred by exhibitor; calved February 24, 1892, sire Major Morton, 4572, dam Pernelia, 9565, by Scotch Chief, 2933, gr. d. Princess Aldine, 7815, by Prince Albert.

E. H. & C. S. Barney, Milford; third prize, three dollars; Duncan, red and white, bred by exhibitors; calved March 27, 1892, sire Duke of Shade Park, 5054, dam Edith of Brookside 2d, 11261.

Ayrshire Cows, Four Years Old.

J. F. Converse, Woodville; first prize, forty dollars; Della Pender, 8077, red and white, bred by exhibitor; calved May 18, 1883, sire Major Drummond, 2006, dam Miss Pender, 3688.

E. H. & C. S. Barney, Milford; second prize, twenty dollars; Princess Buttercup 2d, dark brown and white, bred by Oneida Community, Kenwood; calved March 15, 1885, sire Jason Douglas, 3377, dam Princess Buttercup, 3101.

G. H. Bell, Rome; third prize, twelve dollars; Lady Winfield, 8910, red and white, bred by exhibitor; calved October 5, 1884, sire Winifred 3d, 4039, dam Spotted Beauty of Verona, 7847, by Rob Roy, 3316, gr. d. Hartford Diamond, 7113, by Pride of Hartford, 2222.

E. H. & C. S. Barney, Milford; first prize, forty dollars; Bonnie Nannie 3d, 10330, red and white, bred by H. R. C. Watson, West Farms; calved December 10, 1888, sire Sir Hugh, 2582, dam Bonnie Nannie, 5940.

J. F. Converse, Woodville; second prize, twenty dollars; Inthe, 10746, red, bred by exhibitor; calved May 10, 1889, sire Enoch, 3757, dam Hopeful Belle, 8067.

W. G. Tucker, Elm Valley; third prize, twelve dollars; Princess Clyde, 10472, red, bred by exhibitor; calved March 21, 1889, sire Major Clyde, 3988, dam Princess Aldine, 7815, by Prince Albert, 3121, gr. d. Aldine, 7704.

Ayrshire Heifers, Two Years Old.

G. H. Bell, Rome; first prize, thirty dollars; Queen of Riverside, 11551, red and white, bred by exhibitor; calved June 25, 1890, sire Dandy Lad, 4513, dam Beauty of Rome, 8849, by Rob Roy, 3316, gr. d. Hartford Diamond, 7113, by Pride of Hartford, 2222.

J. F. Converse, Woodville; second prize, fifteen dollars; Antonia, 10753, red, little white, bred by exhibitor; calved March 26, 1890, sire Enoch, 3757, dam Kitty Ives, 8086.

E. H. & C. S. Barney, Milford; third prize, ten dollars; Alline Conley, 10823, red with some white, bred by H. R. C. Watson, West Farms; calved January 19, 1890, sire Bob Conley 2d, 4886, dam Alline Douglass, 5259.

Ayrshire Heifers, One Year Old.

E. H. & C. S. Barney, Milford; first prize, twenty dollars; Rhodora of Brookside, 11271, red and white, bred by exhibitors; calved April 25, 1891, sire Tim Mars of Vernon, 4852, dam Lady of Brookside, 11256.

J. F. Converse, Woodville; second prize, ten dollars; Enoch Bell, red, bred by exhibitor; calved March, 1891, sire Enoch, 3757, dam Silver Dream, 8082.

W. G. Tucker, Elm Valley, third prize, five dollars; Madam Hebron, 11599, red, bred by exhibitor; calved April 14, 1891, sire Joe Hebron, 4737, dam Princess Clyde, 10472, by Major Clyde, 3988, gr. d. Princess Aldine, 9565, by Prince Albert.

Ayrshire Heifer Calves, Over Five Months Old.

G. H. Bell, Rome; first prize, ten dollars; Queen of Tresham, red and white, bred by exhibitor; calved February 2, 1892, sire Dandy Lad, 4513, dam Daisy Tresham 2d, 8842, by Winfield Boy, 2610, gr. d. Daisy Tresham 2d, 5621, by Kilmarnock, 2611.

W. G. Tucker, Elm Valley; second prize, five dollars; Rosy Morton, red with little white, bred by exhibitor; calved February 29, 1892, sire Major Morton, 4572, dam Rosy Miller, 6571, by Lord Wallace, 1293, gr. d. Rosy, 1811, imported.

J. F. Converse, Woodville; third prize, three dollars; Irene, dark red and white, bred by exhibitor; calved February, 1892, sire Bert Douglas, 4591, dam Fesa, 10750.

JERSEYS.

Jersey Herd.

T. R. Proctor, Utica; large gold medal.

Bull, Bunker, 9025; cows, Bunker's Pride, 38571, Bunker's Venice, 38570, Nellie Bunker, 52163, John Bull's Hilda, 55909, Proctor's Belle, 47106.

Jersey Bull and Produce.

T. R. Proctor, Utica; large gold medal; bull, Bunker, 9025; produce, Bunker's Pride, 38571, Bunker's Venice, 38570, Proctor's Belle, 47106, Nellie Bunker, 52163.

Jersey Bulls, Three Years Old.

C. I. Kingsbury, Oswego; first prize, fifty dollars; Prince of St. Lambert, 5287, solid fawn with dark shadings, bred by Romeo H. Stephens, St. Lambert, P. Q., Canada; calved March, 1880, sire Stoke Pogis 3d, 2238, dam Witch of St. Lambert, 5479, by Lord Lisgar, 1066, gr. d. Lucy of St. Lambert, 5116, by Victor Hugo, 197.

A. H. Cooley, Little Britain; second prize, twenty-five dollars; Mahkeenac 2d, 23703, dark fawn, bred by exhibitor; calved November 18, 1887, sire Mahkeenac, 3290, dam Ocea, 19403, by Ossian, 3249, gr. d. Queen of Dover, by Miramon, 1451.

John I. Gordon, Mercer, Pa.; third prize, fifteen dollars; Mercer Boy, 24378, dark fawn, bred by exhibitor; calved May 18, 1888, sire Dauncey Stoke Pogis, 16045, dam Brown Mercer 2d, 62018, by Lackawannock, 9220, gr. d. Brown Mercer, 19851, by Mercer K., 9223.

Jersey Bulls, Two Years Old.

T. R. Proctor, Utica; first prize, forty dollars; John Bull's Carlo, 25431, fawn, bred by exhibitor; calved December 2, 1889, sire John Bull's Stoke Pogis, 18435, dam Miss Alexander 2d, 26054, by Carlo, 5559, gr. d. Miss Alexander, 26041.

A. H. Cooley, Little Britain; second prize, twenty dollars; Duke of Chestnutwood, solid dark fawn, bred by exhibitor; calved August 25, 1890, sire Mahkeenac 2d, 23703, dam Duke's Frolic, 77052, by Duke of Ramseys, 6947, gr. d. Frolic's Gem, 38693, by Ramapo, 4679.

Associated Farms, Skaneateles; third prize, ten dollars; Dora's Neptune, 29343, fawn, bred by G. M. Tallcot, Skaneateles; calved March 22, 1890, sire McBride's Exile, 20076, dam Dora Neptune 2d, 37059, by Baron Rex, 5935, gr. d. Dora Neptune, 20318, by Neptune, 5368.

Jersey Bulls, One Year Old.

Associated Farms, Skaneateles; first prize, twenty dollars; Glenover Chief, fawn, bred by J. M. Tallcot, Skaneateles; calved April 21, 1891, sire Selestria's Neptune, 25841, dam Daisy McBride, 66268, by McBride's Exile, 20076, gr. d. Lassie's Pet, 38216, by Duke of Salina, 11850.

A. H. Cooley, Little Britain; second prize, ten dollars; solid dark fawn, bred by exhibitor; calved September 1, 1891, sire Mahkeenac 2d, 23703, dam Frolic of Chestnutwood, 19405, by Mahkeenac, 3290, gr. d. Arthur's Frolic, imported.

John I. Gordon Mercer, Pa.; third prize, five dollars; Mildred's Pogis, gray fawn, bred by exhibitor; calved July 17, 1891, sire Dauncey Stoke Pogis, 16045, dam Sweet Mildred, 22838, by Pierson, 6217, imported, gr. d. Coliste of Scituate, by Black Defiance, 4314.

Jersey Bull Calves, Over Five Months Old.

R. D. Button, Cottons; first prize, ten dollars; calved September 17, 1891, sire Button's Erica, 19706, dam Lizzie of Oak Hill, 67210, by Prince of Broadmoor, 8005, gr. d. Elva of Oak Hill, 51800.

A. H. Cooley, Little Britain; second prize, five dollars; solid dark fawn, bred by exhibitor; calved September 8, 1891, sire Mahkeenac 2d, 23703, dam Lady Angetta 2d, 77051, by Chestnut Burr, 17732, gr. d. Lady Angetta, 51063, by Duke of Ramseys.

T. R. Proctor, Utica; third prize, three dollars; Proctor's St. Lambert, 28550, fawn, bred by exhibitor; calved September 27, 1891, sire Scion of St. Lambert, 2844, dam Proctor's Belle, 47106.

Jersey Cows, Four Years Old or Over.

T. R. Proctor, Utica; first prize, forty dollars; Bunker's Pride, 38571, fawn, bred by exhibitor; calved January 7, 1886, sire Bunker, 9025, dam Stella's Pride, 16855.

A. H. Cooley, Little Britain; second prize, twenty dollars; Cordialite 2d, 40319, imported, solid light fawn, calved July 20, 1885, sire Jacquot 2d, 13147, dam Cordialite, 22084, by Catewayo (P. S. 224, J. H. B.).

E. F. Hawley, Pittsford; third prize, twelve dollars; Careta Pogis, 42784.

Jersey Heifers, Three Years Old.

E. F. Hawley, Pittsford; first prize, forty dollars; Katherine of Pittsford, 73169, solid, bred by F. J. Prentiss, Greenport, L. I.; calved May 11, 1889, sire Duke of St. Lambert, 16160, dam Kate Winslow, by Bristol Chief 3d, gr. d. Lady Parqua, by Clifton Duke, 1118.

A. H. Cooley, Little Britain; second prize, twenty dollars; Lady Angetta 2d, 77051, bred by exhibitor; calved September 5, 1888, sire Chestnut Burr, 17732, dam Lady Angetta, 51063, by Duke of Ramseys, 6947, gr. d. Angetta 2d, by Ramapo, 4679.

E. F. Hawley, Pittsford; third prize, twelve dollars; Bess of Pittsford Farms, 73170, solid, bred by F. J. Prentiss, Greenport, L. I.; calved May 13, 1889, sire Duke of St. Lambert, 16160, dam Bess Lizzie, 40950, by Broadswood, 7149, gr. d. Rarus' Lizzie, 16063, by Rarus, 2682.

Jersey Heifers, Two Years Old.

John I. Gordon, Mercer, Pa; first prize, thirty dollars; Sweet Mildred, 2d, fawn, bred by exhibitor; calved September 19, 1890, sire Dauncey Stoke Pogis, 16045, dam Sweet Mildred, 22838, by Pierson, 6217, imported, gr. d. Caliste, of Scituate, by Black Defiance, 4314.

A. H. Cooley, Little Britain; second prize, fifteen dollars; Nox of Chestnutwood 2d, 77350, solid dark fawn, bred by exhibitor; calved January 28, 1890, sire Mahkeenac 2d, 23703, dam Nox of Chestnutwood, 60754, by Duke of Ramseys, 6947, gr. d. Nox.

E. F. Hawley, Pittsford; third prize, ten dollars; Mary Anne of Pittsford 73174, bred by F. J. Prentiss, Greenport, L. I.; calved March 5, 1890, sire Duke, of St. Lambert, 16160, dam Mary Anne, of Somerset, 42156.

Jersey Heifers, One Year Old.

T. R. Proctor, Utica; first prize, twenty dollars; Flora's Princess 2d, fawn, bred by J. Lowery, Utica; calved December 20, 1890, sire Bunker, 9025, dam Flora's Princess, 33756.

E. F. Hawley, Pittsford; second prize, ten dollars; Golden of Pittsford, 73197, bred by F. J. Prentiss, Greenport, L. I.; calved June 23, 1891, sire Minnie's Rioter, of St. Lambert, 27159, dam St. Lambert's Dream, 61969.

A. H. Cooley, Little Britain; third prize, five dollars; Dovey of Chestnutwood, 80309, solid gray fawn, bred by exhibitor; calved September 3, 1890, sire Chestnut Burr, 17732, dam Dovey Deans, 2d, 66421, by Duke of Ramseys, gr. d. Dovey Deans, by Ramapo.

Jersey Heifer Calves, Over Five Months Old.

E. F. Hawley, Pittsford; first prize; Wanda, of Pittsford Farm, bred by F. J. Prentiss, Greenport, L. I.; calved March 18, 1892, sire Duke of St. Lambert, 16160, dam Lady Mary of St. Lambert, 42781.

T. R. Proctor, Utica; second prize; Venetia, fawn, bred by exhibitor; calved October 1, 1891, sire Bunker, 9025, dam Bunker Venice 2d, 55905.

C. J. Kingsbury, Oswego; third prize; Miss Eva Pogis 2d, 74230, solid, bred by E. L. Clarkson, Tivoli; calved September 14, 1891, sire Nancy's Stoke Pogis, 2531, dam Miss Eva Pogis, 63887, by Lord Victor Pogis, 14499, gr. d. Florinda Duke's Eva, by Florinda's Duke.

GUERNSEYS.

Guernsey Herd.

Francis Shaw, Wayland, Mass.; large gold medal.

Bull, Deputy, 2917, imported; cows, Lady Archer 2d, 5955, imported, Lara 4th, 5951, imported, Dawn, 711, Picotte 2d, 2218, imported, Lily des Islots, 1816, imported; reserve, bull, Lord Churchill, 2914, imported; reserve, cow, Fill Pail 4th, 565, imported.

Guernsey Bulls and Produce.

R. A. Borden, Easton; large gold medal; bull, Glenwood, 531; produce, Glenwood 2d, 1681, Pansy of Applecot, 4565, Maid of Applecot, 4788, Elva, 5206.

Guernsey Bulls, Three Years Old or Over.

B. F. Nutting, Woodville; first prize, fifty dollars; Glenwood 2d, 1689, fawn and white, bred by C. Peck, Locke; calved August 8, 1887, sire Glenwood, 531, dam Minnehaha, 1554.

R. A. Borden, Easton; second prize, twenty-five dollars; Royal Jeweler 2d, 2398, bred by F. B. Buckley, Valley Falls; calved

February 28, 1889, sire Royal Jeweler, 1821, dam Queen Rosie 2d, by Albemarle, 56.

Francis Shaw, Wayland, Mass.; third prize, fifteen dollars; Jessie's Donald, 2710, fawn and white, bred by exhibitor; calved March 31, 1889, sire Donald Dennie, 553, dam Jeweler's Jesse, 2801.

Guernsey Bulls, Two Years Old.

F. B. Buckley, Valley Falls; first prize, forty dollars; Orange Duke, 2476, orange fawn and white, bred by Corydon Peck, Locke; calved May 10, 1890, sire Traveler 3d, 1644, dam Diana of Maple Glen, 3343.

Geo. O. Holcomb, Troy, Pa; second prize, twenty dollars; King John, 2393, fawn and white, bred by J. A. Griffin, Athens, Pa.; calved March 15, 1890, sire Ruby of Norway, dam May 26th.

Francis Shaw, Wayland, Mass.; third prize, ten dollars; Jessie's Forget-me-not, 3048, orange fawn and white, bred by exhibitor; calved May 26, 1890, sire Forget-me-not, 587, imported, dam Jeweler's Jessie, 2801.

Guernsey Bulls, One Year Old.

Francis Shaw, Wayland, Mass.; first prize, twenty dollars; Lord Churchill, 2914, imported, yellow, fawn and white, bred by H. M. Ozanne, Castel, Guernsey; calved February 19, 1891.

W. A. Alexander, Scipioville; second prize, ten dollars; St. Andrew's United, lemon fawn and white, bred by J. Pierpont Morgan, Highland Falls; calved January 11, 1891, sire United, 2209, imported, dam Iris 3d, 4554, imported, by Volge, 98, gr. d. Iris, by Republic, 18 P. S.

B. F. Nutting, Woodville; third prize, five dollars; Oswego Boy, 3033, bred by C. H. Lockwood, Oswego; calved March, 1891, sire Dolly's Seneca Chief, 2214, dam Satteen, 2377.

Guernsey Bull Calves, Over Five Months Old.

G. Howard Davison, Millbrook; first prize, ten dollars; Carman, reddish fawn with white, bred by Langhorne Wister, Duncannon, Pa.; calved October 2, 1891, sire Prometheus, 1488, dam Althea, 2413, by Shearman, 448, gr. d. Lady Avernal, 1419.

F. B. Buckley, Valley Falls; second prize, five dollars; Victory of Valley Falls, 3045, orange fawn and white, bred by exhibitor; calved February 24, 1892, sire Orange Duke, 2476, dam Lady Radley, 1665, by Radley, 209, gr. d. Daisy 2d, of Robin, 860, imported.

Francis Shaw, Wayland, Mass.; third prize, three dollars; Frank Leslie, 2915, imported, fawn and white, bred by H. A. Dorey, Guernsey; calved November 14, 1891.

Guernsey Cows, Four Years Old or Over.

R. A. Borden, Easton; first prize, forty dollars; Amberine, 2059, orange and white, bred by Thomas F. Harvey & Son, West Grove, Pa.; calved April 24, 1887, sire Amber, 145, imported, dam Herma 2d, 832, imported.

Francis Shaw, Wayland, Mass.; second prize, twenty dollars; Picotte 2d, 2218, imported, nearly solid fawn, bred by T. Le Pordevin, Guernsey; calved January 17, 1880.

Francis Shaw, Wayland, Mass.; third prize, twelve dollars; Dawn, 711, bred by John Mahy, Guernsey; calved March 18, 1881.

Guernsey Heifers, Three Years Old.

Francis Shaw, Wayland, Mass.; first prize, forty dollars; Frequet Beauty, 5957, imported, red and white, bred by W. H. Carrington, Guernsey; calved September 14, 1888.

J. J. Bush, Elmira; second prize, twenty dollars; Pansy of Applecot, 4565, fawn, little white, bred by R. A. Borden, Easton; calved May 1, 1889, sire Glenwood, 531, dam Lady Champion, by Sir Champion 7th, gr. d. Mignonette.

R. A. Borden, Easton; third prize, twelve dollars; Maid of Applecot, 4758, bred by exhibitor; calved August 31, 1889, sire Glenwood, 531, dam Lady of Applecot, 3493, by Don Juan, 437, gr. d. Lady May, 531.

Guernsey Heifers, Two Years Old.

R. A. Borden, Easton; first prize, thirty dollars; Maud B., 5131, orange and white, bred by exhibitor; calved February 28, 1890, sire Glenwood, 531, dam Amberine, 2059, by Amber, 145, gr. d. Lady May, 531, imported.

Francis Shaw, Wayland, Mass.; second prize, fifteen dollars; Select of Hill Top, 5622, fawn and white, bred by exhibitor; calved March 22, 1890, sire Forget-me-not, 587, imported, dam Select 2d, 2229, imported.

Francis Shaw, Wayland, Mass.; third prize, ten dollars; Victress, 5626, fawn and white, bred by exhibitor; calved October 27, 1889, sire Marcus Select, 1210, imported, dam Victorine 4th, 2547.

Guernsey Heifers, One Year Old.

G. Howard Davison, Millbrook; first prize, twenty dollars; Indian Girl 3d, 5485, fawn with white, bred by Langhorne Wister, Duncannon, Pa.; calved September 3, 1890, sire Allen's Cove, 1226, dam Indian Girl, 2808.

F. B. Buckley, Valley Falls; second prize, ten dollars; Flora B., 6207, orange fawn and white, bred by exhibitor; calved July 10, 1891, sire Duke of Easton, 885, dam Jessie Lawrence, 4184.

Francis Shaw, Wayland, Mass.; third prize, five dollars; Queen of the Dairy, 5692, red and little white, bred by Mrs. Le Paturel, Guernsey; calved May 16, 1891.

Guernsey Heifer Calves, Over Five Months Old.

G. Howard Davison, Millbrook; first prize, ten dollars; Czarina, reddish fawn and white, bred by exhibitor; calved October 24, 1891, sire Hero of Springside, 2328, dam Purity, 2315.

Francis Shaw, Wayland, Mass.; second prize, five dollars; Fair Stella 2d, 5961, imported, red and little white, bred by L. de Saumarez, Guernsey; calved November 12, 1891.

G. Howard Davison, Millbrook; third prize, three dollars; Carmencita, fawn and white, bred by exhibitor; calved December 3, 1891, sire Hero of Springside, 2328, dam Nebula, 2320.

FAT CATTLE.

Fat Cows, Over Three Years Old.

George O. Holcomb, Troy, Pa.; first prize, twenty dollars.

J. P. Hine, Shinrock, Ohio; second prize, ten dollars.

George O. Holcomb, Troy, Pa.; third prize, five dollars.

Fat Heifers, Under Three Years Old.

George O. Holcomb, Troy, Pa.; first prize, fifteen dollars.

Thomas Boak & Son, Gerry; second prize, eight dollars.

George O. Holcomb, Troy, Pa.; third prize, four dollars.

Fat Calves, Under Three Months Old.

George N. Bissell, Milford; second prize, five dollars; bred by exhibitor; calved June 28, 1892, sire Drinkwater, 40273, dam Miss Minnie 2d, 40277, by Hampton Wilton, 22593.

Working Oxen.

Pairs of Working Oxen.

Lyman Bush, Lafayette; first prize, thirty dollars.

A. C. Chase, Syracuse; second prize, fifteen dollars.

Fred. B. Wheeler, Rome; third prize, eight dollars.

Pairs of Steers, Three Years Old, Broken to Yoke.

Fred. B. Wheeler, Rome; first prize, twenty-five dollars.

Smith Baker and C. W. Clark, Lafayette; second prize, twelve dollars.

Pairs of Steers, Two Years Old, Broken to Yoke.

Alanson Hodges, Delphi; first prize, twenty dollars.

HORSES.

Clydesdales.

Clydesdale Stallions, Four Years Old or Over.

Smiths & Powell, Syracuse; first prize, fifty dollars; Empire, 4398, bay, 16.1, 4 years; sire Strathmore, 2163, dam Princess, 733.

C. A. McNee, Malone; second prize, twenty-five dollars; Clifford, 4295, brown, 16, 8 years.

Clydesdale Stallions, Three Years Old.

Smiths & Powell, Syracuse; first prize, forty dollars; King Rufus, 5229, bay, 16.2; sire Rufus, 3608, dam Jessamine, 1065.

Clydesdale Stallions, One Year Old.

Smiths & Powell, Syracuse; first prize, twenty dollars; King Offa. 6151, bay; sire Rufus 3608, dam Jessamine, 1065.

Clydesdale Brood Mares, With Foal at Foot.

Smiths & Powell, Syracuse; first prize, forty dollars; Princess, 733, black, 16.2, 11 years; sire Prince of Blacklaw, 223, dam Lady of the Manor.

Clydesdale Fillies, Two Years Old.

Smiths & Powell, Syracuse; first prize, twenty dollars; Princess Pride, 5230, bay, 16; sire Rufus, 3608, dam Princess, 733.

Clydesdale Fillies, One Year Old.

Smiths & Powell, Syracuse; first prize, fifteen dollars; Princess Gem, 6152, sorrel; sire Rufus, 3608, dam Princess, 733.

Clydesdale Foals, Under One Year Old (Male or Female).

Smiths & Powell, Syracuse; first prize, ten dollars; Lakeside Lad, bay; sire Empire, 4398, dam Lassie, 732.

ENGLISH SHIRES.

English Shire Sires.

Jackson Horse Co., Jackson Centre, Pa.; large gold medal.

English Shire Stallions, Four Years Old or Over.

Jackson Horse Co., Jackson Centre, Pa.; first prize, fifty dollars; bay, 16.2, 8 years.

Jackson Horse Co., Jackson Centre, Pa.; second prize, twenty-five dollars; bay, 16.2, 6 years.

C. A. McNee, Malone; third prize, fifteen dollars; Gladstone, 3447, bay, 16, 5 years.

English Shire Stallions, One Year Old.

Jackson Horse Co., Jackson Centre, Pa.; first prize, twenty dollars; bay, 14.1.

English Shire Brood Mares, With Foal at Foot.

Jackson Horse Co., Jackson Centre, Pa.; first prize, forty dollars; gray, 16.1.

English Shire Fillies, Three Years Old.

Jackson Horse Co., Jackson Centre, Pa.; first prize, thirty dollars; bay, 15.3

English Shire Fillies, Two Years Old.

Jackson Horse Co., Jackson Centre, Pa.; first prize, twenty dollars; bay, 15.2.

English Shire Fillies, One Year Old.

Jackson Horse Co., Jackson Centre, Pa.; first prize, fifteen dollars; bay, 14.3.

English Shire Foals, Under One Year Old (Male or Female).

Jackson Horse Co., Jackson Centre, Pa.; first prize, ten dollars.

PERCHERONS.

Percheron Sires.

John W. Akin, Scipio; large gold medal; Tongleur, 7513.

Percheron Stallions, Four Years Old or Over.

Elwood S. Akin, Scipio; first prize, fifty dollars; Hongroil, 9746, black, 16, 4 years; sire Tongleur, 7513, dam Mignone (6355).

John W. Akin, Scipio; second prize, twenty-five dollars; Tongleur, 7513, black, 16.2, 8 years; sire Waterloo, 2325, dam Poule (11596), by Romulus, 1399, imported.

George T. Seeley, Marcellus; third prize, fifteen dollars; Bayard, 3899, black, 16, 10 years; sire Ally, dam Rosette, by Louison.

Percheron Stallions, Three Years Old.

John W. Akin, Scipio; first prize, forty dollars; Emmett, 11146, gray, 16; sire Tongleur, 7513, dam Lois, 6045, by Genator, 2973.

Percheron Stallions, Two Years Old.

A. S. Worden, Ulysses, Pa.; first prize, thirty dollars; black, 16; sire Favori, 3979, dam Elisa, 7482.

Percheron Brood Mares, with Foal at Foot.

John W. Akin, Scipio; first prize, forty dollars; Almondine, 7498, black, 16.1, 5 years; sire Production (429), dam Biche (12014), imported.

Percheron Fillies, Three Years Old.

John W. Akin, Scipio; first prize, thirty dollars; Monica, 11149, black, 16; sire Tongleur, 7513, dam Queen, 3004.

Percheron Fillies, Two Years Old.

John W. Akin, Scipio; first prize, twenty dollars; Idallo, 12894, black, 15.2; sire Tongleur, 7513, dam Ipome, 7514.

Percheron Fillies, One Year Old.

Smiths & Powell, Syracuse; first prize, fifteen dollars; Undine 2d, 15652, black; sire Belidor, 9520, dam Undine, 8505.

Percheron Foals, Under One Year Old (Male or Female).

John W. Akin, Scipio; first prize, ten dollars; Phillis, black, 4 months; sire Tongleur, 7513, dam Almondine, 7498.

Smiths & Powell, Syracuse; second prize, five dollars; Henri, black.

Associated Farms, Skaneateles; third prize, three dollars; Queen, gray; sire Solimon, 6650, imported, dam Gentills, 10979, imported.

FRENCH COACH.

French Coach Sires.

Smiths & Powell, Syracuse; large gold medal; Franconi, 189, imported.

French Coach Stallions, Four Years Old or Over.

Ira L. Otis, Rochester; first prize, fifty dollars; Danseur, 427, imported, dark bay, 16, 5 years; sire French Government Stallion Stade, dam Orange, by Coquerant.

John W. Akin, Scipio; second prize, twenty-five dollars; Normand, 921, bay brown, 16, 4 years; sire Ognadel, dam Nawton, by Newton.

Smiths & Powell, Syracuse; third prize, fifteen dollars; Franconi, 189, imported, bay, 16.1 1-2, 9 years.

French Coach Stallions, Three Years Old.

Smiths & Powell, Syracuse; first prize, forty dollars; Prince of Normandy, 686, imported, brown, 15.3

John W. Akin, Scipio; second prize, twenty dollars; Leverean, 918, brown, 16.1; sire Figuier, dam Cocotte, by Quality.

Smiths & Powell, Syracuse; third prize, ten dollars; Orient, 685, imported, bay, 15.3.

French Coach Stallions, Two Years Old.

F. Wayland Smith, Kenwood; first prize, thirty dollars; Florange, 743, seal brown, 15.3; sire Buenos Ayres, 193, imported, dam Rosa Bonheur, 194.

John W. Akin, Scipio; second prize, fifteen dollars; Montford, 920, bay, 16; sire Gibralter, dam Rapio, by Agenda.

French Coach Stallions, One Year Old.

F. Wayland Smith, Kenwood; first prize, twenty dollars; Floral, 1052, bay; sire Buenos Ayres, 193, imported, dam Rosa Bonheur, 194.

French Coach Brood Mares, with Foal at Foot.

F. Wayland Smith, Kenwood; first prize, forty dollars; Rosa Bonheur, 194, bay, 16, 6 years; bred by M. Brison, Calvados, France; sire Government Stallion St. Rigomer, 9975, dam Hirondelle, by Underham.

Ira L. Otis, Rochester; second prize, twenty dollars; Emeline, 410, imported, dark bay, 16.1, 7 years; sire French Government Stallion Utrecht, dam Coquette, by Regnard.

John W. Akin, Scipio; third prize, ten dollars; Judith, 731, black, 16.1, 5 years; sire Aquilla, dam Camilla, by Normand.

French Coach Fillies, Three Years Old.

Smiths & Powell, Syracuse; first prize, thirty dollars; Lady Leroy, 690, imported, bay.

John W. Akin, Scipio; second prize, fifteen dollars; Mazella, 927, black, 16; sire Quorthadox, dam Coquette, by Senechal.

French Coach Fillies, Two Years Old.

Elwood S. Akin, Scipio; first prize, twenty dollars; Messagere, 928, brown, 16; sire Cherbourg, dam Coquette, by Renaissant.

John W. Akin, Scipio; second prize, ten dollars; Mireille, 929, brown, 16; sire Gallant II, dam Gallantine, by Noville.

French Coach Fillies, One Year Old.

Ira L. Otis, Rochester; third prize, four dollars; Mercir, sire Danseur, 427, imported, dam Tigress, 173, imported.

French Coach Foals, Under One Year Old (Male or Female).

Ira L. Otis, Rochester; first prize, ten dollars; sire Danseur, 127, imported, dam Emeline, 410, imported.

F. Wayland Smith, Kenwood; second prize, five dollars; Faribale, bay, 2 months; sire Buenos Ayres, 193, imported, dam Rosa Bonheur, 194.

F. Wayland Smith, Kenwood; third prize, three dollars; Prince de Pique, brown, 5 months; sire Government Stallion "Don Quichatte," dam Dame de Pique.

CLEVELAND BAYS.

Cleveland Bay Stallions, Four Years Old or Over.

Stephen Hallock, Albion; first prize, fifty dollars; bay, 5 years.

Cleveland Bay Stallions, One Year Old.

R. M. Sharra, Oswego; second prize, ten dollars; bay; sire Gloster (26), imported, dam Protine (55), imported.

Brown Bros., Elbridge; third prize, five dollars; Lord Clive, 862, bay; sire Argyle (317), dam Lady Louisa, 127.

Cleveland Bay Brood Mares, With Foal at Foot.

Brown Bros., Elbridge; first prize, forty dollars; Lady Louisa, 127, imported, bay, 16, 4 years; sire Prince Robert (1151), dam by Freemason (169).

Cleveland Bay Fillies, Three Years Old.

J. J. Bush, Elmira; first prize, thirty dollars; Lady May, bay; sire Royal Prince, 413.

Associated Farms, Skaneateles; second prize, fifteen dollars; Vivian, 166, imported, bay, 16; sire Reform (653), dam by Newton (216).

Cleveland Bay Fillies, Two Years Old.

J. J. Bush, Elmira; third prize, five dollars; Lady Flora, bay; sire Royal Prince, 413.

Cleveland Bay Foals, Under One Year Old (Male or Female).

Brown Bros., Elbridge; second prize, five dollars; Ivy, bay, 4 mos.; sire Royal Victor (1465), dam Lady Louise (127).

Associated Farms, Skaneateles; third prize, three dollars; Sultan, bay; sire Royal Victor (1465), dam Vivian (166).

HACKNEYS.

Hackney Stallions, Four Years Old or Over.

Bloodgood Stock Farm, New Marlboro, Mass.; first prize, fifty dollars; Blue Peter, 3456, 15.3, 4 years; sire Excelsior, 198, dam by Highflyer, 3235.

Hackney Stallions, Two Years Old.

Bloodgood Stock Farm, New Marlboro, Mass.; first prize, thirty dollars; Coming Wonder, bay; sire British Prince, 98, dam Lady Angrove.

Hackney Fillies, One Year Old.

Bloodgood Stock Farm, New Marlboro, Mass.; first prize, fifteen dollars; Berkshire Beauty, bay; Star of Mepal, 1920, dam Golden Fleece, 3876.

THOROUGHBREDS.

(Limited to such as have size and substance enough to make good carriage and saddle horses.)

Thoroughbred Stallions, Two Years Old.

R. Durker, Syracuse; first prize, thirty dollars; bay, 15.1; sire Idaho, dam Laverne, by Grenorda 2d.

Thoroughbred Fillies, Two Years Old.

R. Durker, Syracuse; first prize, twenty dollars; sire Idaho, dam Geechee, by Queechee.

STANDARD BRED HORSES.

(Limited to such as are recorded in Wallace's American Trotting Register.)

Standard Bred Stallions, Four Years Old or Over.

J. W. Pendergast, Phoenix; first prize, fifty dollars; Kentucky Dictator, 5758; sire Dictator, 113, dam Nettie Time.

T. S. Turrell, Medina; second prize, twenty-five dollars; Thurah, 7764, bay, 15.2, 8 years.

Edward Mulroy, Marcellus; third prize, fifteen dollars; Stenographer, 15178, seal brown, 16.1, 4 years; sire Patchen Volunteer, 1441, dam Black Bess, by Inspector, 559.

Standard Bred Stallions, Three Years Old.

H. A. Moyer, Syracuse; first prize, forty dollars.

Smiths & Powell, Syracuse; second prize, twenty dollars; Lakeside Norval, 15401, bay, 16; sire Norval, 5335, dam Mattie.

Smiths & Powell, Syracuse; third prize, ten dollars; King Alcazar, 12765, bay, 16.1; sire Alcazar, 5102, dam Dimple.

Standard Bred Stallions, Two Years Old.

H. A. Moyer, Syracuse; first prize, thirty dollars.

R. Wright, Lyndonville; second prize, fifteen dollars; Cinch.

Standard Bred Stallions, One Year Old.

Smiths & Powell, Syracuse; first prize, twenty dollars; Sheldona, 17130, brown, 15.1 1-2; sire Patchen Wilkes, dam Sinora, by George Wilkes.

J. W. Knapp, Syracuse; second prize, ten dollars; Landmark Wilkes; sire Cortland Wilkes, dam Nancy Nip, by Landmark.

Smiths & Powell, Syracuse; third prize, five dollars; Lakeside Artist, 16230, steel gray, 14.2; sire Normaneer, 5444, dam Linda, by Mambrino King, 1279.

Standard Bred Brood Mares with Foal at Foot.

Smiths & Powell, Syracuse; first prize, forty dollars; Linda, chestnut, 15.2, 8 years; sire Mambrino King, 1279, dam Lina, by Hamlin's Patchen, 3519.

H. A. Moyer, Syracuse; second prize, twenty dollars.

J. W. Pendergast, Phoenix; third prize, ten dollars; Allie, bay; sire Amber, dam by Lysander, 208.

Standard Bred Fillies, Three Years Old.

Smiths & Powell, Syracuse; first prize, thirty dollars; Countess, bay, 15.2 1-2; sire Normaneer, 5444, dam Linda, by Mambrino King, 1279.

Standard Bred Fillies, Two Years Old.

R. M. Stone, Marcellus; first prize, twenty dollars; King's Daughter; sire Kaiser, 228, dam Middy, by Sir Walkill.

Standard Bred Fillies, One Year Old.

H. A. Moyer, Syracuse; first prize, fifteen dollars.

Standard Bred Foals, Under One Year Old (Male or Female).

Smiths & Powell, Syracuse; first prize, ten dollars; Normalind, chestnut; sire Normaneer, 5444, dam Linda, by Mambrino King, 1279.

H. A. Moyer, Syracuse; second prize, five dollars.

J. W. Pendergast, Phœnix; third prize, three dollars; bay; sire Kentucky Dictator, dam Allie, by Amber.

CARRIAGE AND COACH HORSES.

(Limited to horses not less than sixteen hands, with coach style, quality and action.)

Carriage and Coach Fillies, Three Years Old.

Alex. Becker, Borodino; first prize, thirty dollars.

William J. Pollok, Hopewell; third prize, eight dollars; Cricket, bay, 15.2; sire Tom Moore, Jr.,

Carriage and Coach Fillies, One Year Old.

Smiths & Powell, Syracuse; first prize, fifteen dollars; Fanette, bay; sire Franconi, 189, imported, dam Fanny, by Centaure, imported.

S. M. Brown, Elbridge; second prize, eight dollars; Irena; sire Young Peacock, 39.

William J. Pollok, Hopewell; third prize, four dollars; Whirlwind, brown, 14.2; sire Cyclone, by Stillman.

Carriage and Coach Foals, Under One Year Old (Male or Female)

Smiths & Powell, Syracuse; first prize, ten dollars; Princess Ella, bay; sire King of France, 677, imported, dam Ella Clark, by Centaure, imported.

A. J. Dallas, Syracuse; first prize, thirty dollars; Blucher, bright bay, 16; sire Landmark, dam by Field Marshall Blucher.

William J. Pollok, Hopewell; second prize, fifteen dollars; Cyclone, brown, 16, 6 years; sire Stillman, by Louis Napoleon (207).

Smiths & Powell, Syracuse; third prize, eight dollars; Blue Belle, bay, 16.1, 4 years.

ROADSTERS.

Roadster Brood Mares with Foal at Foot.

Smiths & Powell, Syracuse; first prize, forty dollars; Adelaide, bay, 15.1, 4 years; sire Franconi, 189, imported, dam Pauline, by Derby.

J. W. Pendergast, Phoenix; second prize, twenty dollars; Sarah P., gray; sire Lysander, 208.

William J. Pollok, Hopewell; third prize, ten dollars; Kit, brown, 15.2, 10 years; sire St. Arnurd (1519).

Roadster Fillies, Three Years Old.

Smiths & Powell, Syracuse; first prize, thirty dollars; Flora, chestnut, 15.1 1-2; sire Enterprise, 190, imported, dam Gipsy, by Conquest.

E. J. Kester, Elbridge; second prize, fifteen dollars; Nelly Bly, bay, 15.2 1-2; sire Syracuse, dam by Alvord Horse.

Roadster Fillies, Two Years Old.

Smiths & Powell, Syracuse; first prize, twenty dollars; Adeline, bay, 14.3; sire Franconi, 189, imported, dam Pauline, by Derby.

Roadster Fillies, One Year Old.

William J. Pollok, Hopewell; first prize, fifteen dollars; Hurricane, bay, 14.2; sire Cyclone, by Stillman.

Smiths & Powell, Syracuse; second prize, eight dollars; Lily, chestnut; sire Franconi, 189, imported, dam Maud, by Centaure, imported.

John P. Mulroy, Marcellus; third prize, four dollars; bay.

Roadster Foals under One Year Old (Male or Female).

J. W. Pendergast, Phoenix; first prize, ten dollars; sire Kentucky Dictator, dam Sarah P., by Lysander.

William J. Pollok, Hopewell; second prize, five dollars; Storm, sorrel, 13, 3 months; sire Cyclone, by Stillman.

Smiths & Powell, Syracuse; third prize, three dollars; Adelbert, bay; sire King of France, 677, imported, dam Adelaide, by Franconi, 189, imported.

Farm and Draft Grades.

Brood Mares with Foal at Foot.

Jackson Horse Co., Jackson Centre, Pa.; first prize, forty dollars; gray, 15, 7 years.

R. D. Button, Cotton; second prize, twenty dollars; Grasshopper, dapple gray, 15.2, 4 years.

Herbert A. Manwaring, Daysville; third prize, ten dollars; bay, 15.1, 3 years.

Fillies, Three Years Old.

Smiths & Powell, Syracuse; first prize, thirty dollars; Mabelle, gray, 16; sire Enterprise, 190, imported, dam Lady Gray.

Fillies, Two Years Old.

Smiths & Powell, Syracuse; first prize, twenty dollars; Charmante bay; sire Franconi, 189, imported, dam Spirit, by King of the East, imported.

Fillies, One Year Old.

George T. Seeley, Marcellus; first prize, fifteen dollars; Topsy, gray, 14.3.

Foals, Under One Year Old (Male or Female).

Jackson Horse Co., Jackson Centre, Pa.; first prize, ten dollars; gray.

Smiths & Powell, Syracuse; second prize, five dollars; Nomad, bay; sire Franconi, 189, imported, dam Gipsey, by Conquest.

Shetland Ponies.

(Limited to forty-six inches and under.)

Shetland Stallions, Three Years Old or Over.

J. B. Edsall, Pine City; first prize, twenty dollars; Jocko, black and white, 44 inches, 9 years.

E. F. Hawley, Pittsford; second prize, ten dollars; Bismarck, 39 inches, 6 years.

J. B. Edsall, Pine City; third prize, five dollars; General Sheridan, black, 38 inches, 14 years.

Shetland Stallions, Two Years Old.

Brown Bros., Elbridge; first prize, twenty dollars; Dandy Jim, brown, 40 inches; sire Dexter, dam Lulu

J. F. Converse, Woodville; second prize, ten dollars; John.

Shetland Stallions, Under Two Years Old.

J. F. Converse, Woodville; first prize, ten dollars; Harry.

E. F. Hawley, Pittsford; second prize, five dollars.

E. F. Hawley, Pittsford; third prize, three dollars; Judge, 30 inches.

Shetland Brood Mares with Foal at Foot.

J. F. Converse, Woodville; first prize, twenty dollars.

E. F. Hawley, Pittsford; second prize, ten dollars; bay, 39 inches, 6 years.

J. B. Edsall, Pine City; third prize, five dollars; Lady Sheridan, black, 38 inches, 8 years.

Shetland Mares, Three Years or Over.

E. F. Hawley, Pittsford; first prize, twenty dollars; June, bay, 39 inches.

J. B. Edsall, Pine City; second prize, ten dollars; Susie, black and white, 44 inches, 6 years.

J. F. Converse, Woodville; third prize, five dollars.

Shetland Fillies, Under Two Years Old.

J. F. Converse, Woodville; first prize, ten dollars; Jennie, black, 40 inches, 1 year.

Harry Holcomb, Troy, Pa.; second prize, five dollars; Queen Bess, black and white, 36 inches.

E. F. Hawley, Pittsford; third prize, three dollars; bays, 39 and 38 1-2 inches.

EXMORE PONIES.

(Limited to fourteen hands and under.)

Exmore Stallions, Three Years Old or Over.

Jackson Horse Co., Jackson Centre, Pa.; first prize, twenty dollars; bay, 11 to 12, 4 years.

Exmore Brood Mares, with Foal at Foot.

J. F. Converse, Woodville; first prize, twenty dollars; 48 inches, 4 years.

Exmore Mares, Three Years Old or Over.

Brown Bros., Elbridge; first prize, twenty dollars; Daisy, brown, 49 inches, 3 years.

J. F. Converse, Woodville; second prize, ten dollars; Daisy, brown, 49 inches, 5 years.

Exmore Mares, Two Years Old.

Brown Bros., Elbridge; first prize, twenty dollars; Estelle, brown, 48 inches.

J. F. Converse, Woodville; second prize, ten dollars; Baby, brown, 52 inches.

Coach Pairs, Not Under Fifteen Hands Three Inches.

Smiths & Powell, Syracuse; second prize, twenty dollars.

Phaeton Pairs, Not Over Fifteen Hands Three Inches.

R. M. Stone, Marcellus; first prize, forty dollars.

Abram Myer, Auburn; second prize, twenty dollars; bays, 15.2 1-2, 6 years, sire Hambletonian, dam Clay.

Coupé Horses or Mares.

Albert Palmer, Hannibal; first prize, thirty dollars; bay, 16.2, 7 years

Smiths & Powell, Syracuse; second prize, fifteen dollars; chestnut gelding.

Saddle Horses or Mares.

William J. Pollok, Hopewell; first prize, thirty dollars; Rosa Nell, bay, 14.2, 5 years, sire St. Arnurd, dam Clay.

Pony Teams.

J. F. Converse, Woodville; first prize, twenty dollars; Ben and Nellie, bay, 50 and 52 inches, 3 years.

E. F. Hawley, Pittsford; second prize, ten dollars.

Riding or Driving Ponies, Under Fourteen Hands.

Bloodgood Stock Farm, New Marlboro, Mass.; first prize, twenty dollars; Little Miss, black, 13.3, 5 years, sire British Prince, 93, dam Lady Angrove.

J. F. Converse, Woodville; second prize, ten dollars; Kit, black, 50 inches, 4 years.

J. F. Converse, Woodville; third prize, five dollars; Kate, black, 50 inches, 3 years.

JACKS AND MULES.

Jacks.

Willis & Tyler, Daysville; first prize, thirty dollars; Don Juan 2d, black, 12.2, 5 years, sire Don Juan, dam Annetta.

Pairs of Mules.

Smiths & Powell, Syracuse; first prize, thirty dollars.

SPECIAL PRIZES.

TANDEM, APPOINTMENTS CONSIDERED.

E. F. Hawley, Pittsford; fifteen dollars. (Shetland tandem.)

AMATEURS — (PROFESSIONALS BARRED.)

Exhibition of Driving by Lady.

C. Andrews, Syracuse; first prize, fifty dollars.

J. F. Converse, Woodville; second prize, twenty-five dollars.

A. B. Pierce, Auburn; third prize, fifteen dollars.

Exhibition of Pony Riding by Girl.

Miss Bessie M. Crawford, Liverpool; first prize, forty dollars.

J. F. Converse, Woodville; second prize, twenty dollars.

J. F. Converse, Woodville; third prize, ten dollars.

Exhibition of Pony Riding by Boy.

E. A. Powell, Syracuse; first prize, forty dollars.

Jackson Horse Co., Jackson Centre, Pa.; second prize, twenty dollars.

J. F. Converse, Woodville; third prize, ten dollars.

Best Four-in-hand — General Outfit Considered.

A. C. Chase, Syracuse; twenty-five dollars.

SPEED CLASSES.

AWARDS.

Foals of 1890.— *Mile Heats,* 2 *in* 3 *in Harness.*

Capt. Macy, b. s.; J. H. Clark, Elmira; first prize, $100.

Fortune P., ct. s.; J. W. Day, Waterloo; second prize, $50.

Day Star, g. m.; C. A. Lawrence, Adams; third prize, $30.

Eddie Hill, b. g.; H. Hulett, Fulton; fourth prize, $20.

2.50 *Class.— Mile Heats,* 3 *in* 5 *in Harness.*

Lysander Wilkes, b. s.; A. J. Feek, Syracuse; first prize, $150.

Cinderilla, bk. m.; C. A. Lawrence, Adams; second prize, $75.

Belfast, b. s.; N. W. Foster, Oneida; third prize, $45.

Lena, b. m.; M. E. Cornell, East Syracuse; fourth prize divided, $10.

Julia S., b. m.; S. D. Sweet, Central Square; fourth prize divided, $10,

Golda, ch. m.; C. H. Fisk, Syracuse; fourth prize divided, $10.

Running.— Half Mile Heats, best 2 *in* 3.

Grapeshot, ch. g.; T. Page, Rochester; first prize, $75.

Japhet, br. g.; A. Durkee, Syracuse; second prize, $37.50.

Hummer, b. g.; John Goodman, Weedsport; third prize, $22.50.

Trixie, b. m.; A. F. Campbell, Great Barrington; fourth prize, $15.

Stallions, Foals of 1888.— *Mile Heats,* 3 *in* 5 *in Harness.*

Egdale, ch. s.; Richard Baker, Watkins; first prize, $150.

Allen Kenney, b. s.; E. H. Boutelle, East Syracuse; second prize, $75.

Willie K., b. s.; B. E. Cornell, East Syracuse; third prize, $45.

2.29 *Class.— Mile Heats,* 3 *in* 5 *in Harness.*

Oney, b. g.; George Taylor, Auburn; first prize, $150.

Gordon, b. g.; D. G. Green, Coxsackie; second prize, $75.

Kitchen Belle, b. m.; J. H. Munro, Camillus; third prize, $45.

Maud E., b. m.; C. Henderson, Meadeville, Pa.; fourth prize, $30.

Foals of 1889.— *Mile Heats,* 3 *in* 5 *in Harness.*

Fulano, ch. s.; H. W. Moyer, Syracuse; first prize, $150.

Tillie Macey, b. m.; Judson Clark, Elmira; second prize, $75.

Otto, b. s.; John Fay, Sand Bank; third prize, $45.

Lakeside Norval, ch. s.; Smiths & Powell, Syracuse, fourth prize, $30.

2.25 *Class.— Mile Heats,* 3 *in* 5 *in Harness.*

Chester, br. s.; D. G. Green, Coxsackie; first prize, $250.

Cedric, b. g.; A. J. Feek, Syracuse; second prize, $125.

George M., br. g.; M. E. Cornell, East Syracuse; third prize, $75.

Mollie G.; A. Corbin, Jr., Gouverneur, fourth prize, $50.

Novelty Running Race.

Wahoo, ch. g.; J. A. Sergeant, Sodus, $160.

Japhet, br. g.; A. Durkee, Syracuse, $70.

Drew, ch. g.; T. Page, Rochester, $20.

Foals of 1891.—*Half Mile Heats,* 2 *in* 3 *in Harness.*

Lady Potter, g. m.; J. H. Clark, Elmira; first prize, $125.

Geraldine, bk. m.; J. W. Day, Waterloo; second prize, $62.50.

Landmark Wilkes, b. s.; Dr. J. W. Knapp, Syracuse; third prize, $37.50.

Running.—Mile Heats, best 2 *in* 3.

Wahoo, ch. g.; J. A. Sergeant, Sodus; first prize, $75.

Japhet, br. g.; A. Durkee, Syracuse; second prize, $37.50.

2.40 *Class.—Mile Heats,* 3 *in* 5 *in Harness.*

Clara J., b. m.; P. Tracey, Phoenix; first prize, $150.

Mickie Free, br. g.; S. Phelps, Syracuse; second prize, $75.

M. J. Everetts, b. g.; S. A. Thayer, Syracuse; third prize, $45.

2.30 *Class.—Pacing.—Mile Heats,* 3 *in* 5 *in Harness.*

Dick Fitzgerald, b. g.; Thorn Putnam, Oswego; first prize, $150.

Lochinvar, b. g.; Wm. Kennedy, Syracuse; second prize, $75.

Running.—Mile Dash.

Grapeshot, ch. g.; T. Page, Rochester; first prize, $75.

Wahoo, ch. g.; J. A. Sergeant, Sodus; second prize, $37.50.

Minnie Cerns, ch. m.; J. A. Sergeant, Sodus; third prize, $22.50.

Pony Race.—Half Mile Heats, best 3 *in* 5.

Tom Wonder, spt. g.; A. B. Pierce, Auburn; first prize, $50.

Jack the Ripper, br. g.; H. A. Wheaton, Syracuse; second prize, $25.

Jim Corbett, b. g.; John Merrell, ———; third prize, $15.

Beneito, bk. g.; S. B. Nichols, Pittsford; fourth prize, $10.

SHEEP.

(Unless otherwise stated, the animals shown are bred by the exhibitor.)

COTSWOLDS.

Cotswold Flock.

Rutherford Stuyvesant, Allamuchy, N. J.; gold medal.

Cotswold Rams, Two Years Old or Over.

Ira J. Hiller & Co., Four Towns, Mich.; first prize, twenty dollars; bred by Laidlow & Jackson.

John Chick, Attica; second prize, ten dollars.

Rutherford Stuyvesant, Allamuchy, N. J.; third prize, five dollars.

Cotswold Rams, One Year Old.

Ira J. Hiller & Co., Four Towns, Mich.; first prize, twenty dollars; bred by Laidlow & Jackson.

Rutherford Stuyvesant, Allamuchy, N. J.; second prize, ten dollars.

John Chick, Attica; third prize five dollars.

Costwold Ram Lambs.

Ira J. Hiller & Co., Four Towns, Mich.; first prize, ten dollars; bred by Laidlow & Jackson.

John Chick, Attica; second prize, five dollars.

Rutherford Stuyvesant, Allamuchy, N. J.; third prize, three dollars.

Pens of Two Cotswold Ewes, Two Years Old or Over.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, twenty dollars.

Ira J. Hiller & Co., Four Towns, Mich.; second prize, ten dollars; bred by Laidlow & Jackson.

John Chick, Attica; third prize five dollars.

Pens of Two Cotswold Yearling Ewes.

Ira J. Hiller & Co., Four Towns, Mich.; first prize, twenty dollars; bred by Laidlow & Jackson.

Rutherford Stuyvesant, Allamuchy, N. J.; second prize, ten dollars.

John Chick, Attica; third prize, five dollars.

Pens of Two Cotswold Ewe Lambs.

Ira J. Hiller & Co., Four Towns, Mich.; first prize, ten dollars; bred by Laidlaw & Jackson.

John Chick, Attica; second prize, five dollars.

Rutherford Stuyvesant, Allamuchy, N. J.; third prize, three dollars.

MIDDLE-WOOLED SHEEP.

Southdown Flocks.

F. W. Barrett, Wadsworth; gold medal.

Southdown Rams, Two Years Old or Over,

F. W. Barrett, Wadsworth; first prize, twenty dollars.

Southdown Rams, One Year Old.

F. W. Barrett, Wadsworth; first prize, twenty dollars.

Southdown Ram Lambs.

F. W. Barrett, Wadsworth; first prize, ten dollars.

Pens of (Two) Southdown Ewes, Two Years Old or Over.

F. W. Barrett, Wadsworth; first prize, twenty dollars.

Pens of (Two) Southdown Yearling Ewes.

F. W. Barrett, Wadsworth; first prize, twenty dollars.

Pens of (Two) Southdown Ewe Lambs.

F. W. Barrett, Wadsworth; first prize, ten dollars.

SHROPSHIRES.

Shropshire Flocks.

Frank D. Ward, South Byron; gold medal.

Shropshire Rams, Two Years Old or Over.

Frank D. Ward, South Byron; first prize, twenty dollars.

Osborne & Ladd, Victor; second prize, ten dollars; bred by H. Williams.

Shropshire Rams, One Year Old.

Osborne & Ladd, Victor; first prize, twenty dollars.

Frank D. Ward, South Byron; second prize, ten dollars.

G. Howard Davidson, Millbrook; third prize, five dollars; one bred by W. Frank; two bred by G. G. Blantern, England.

Shropshire Ram Lambs.

Frank D. Ward, South Byron; first prize, ten dollars.

Osborne & Ladd, Victor; second prize, five dollars.

Osborne & Ladd, Victor; third prize, three dollars.

Pens of (Two) Shropshire Ewes, Two Years Old or Over.

Frank D. Ward, South Byron; first prize, twenty dollars.

Osborne & Ladd, Victor; second prize, ten dollars.

G. Howard Davidson, Millbrook; third prize, five dollars; bred by J. T. Nickels, England.

Pens of (Two) Shropshire Yearling Ewes.

G. Howard Davidson, Millbrook; first prize, twenty dollars; two bred by J. T. Nickels, and one by G. Thompson.

Frank D. Ward, South Byron; second prize, ten dollars.

Osborne & Ladd, Victor; third prize, five dollars.

Pens of (Two) Shropshire Ewe Lambs.

Frank D. Ward, South Byron; first prize, ten dollars.

Frank D. Ward, South Byron; second prize, five dollars.

Osborne & Ladd, Victor; third prize, three dollars.

SPECIAL PRIZES.

TO BE AWARDED BY THE AMERICAN SHROPSHIRE REGISTY ASSOCIATION.

Best Flocks of Registered Shropshire Sheep, Consisting of Two Shearling Ewes, Two Ram Lambs and Two Ewe Lambs.

Frank D. Ward, South Byron; first prize, twenty dollars.

Osborne & Ladd, Victor; second prize, fifteen dollars.

Best Flock of Five Lambs (Three Ewe Lambs and Two Ram Lambs) to be owned by the Exhibitor.

Frank D. Ward, South Byron; fifteen dollars.

HAMPSHIRES.

Hampshire Flock.

E. M. Benham, Hopewell Centre; gold medal.

Hampshire Rams, Two Years Old or Over.

E. M. Benham, Hopewell Centre; first prize, twenty dollars.

Woodward & Jaques, Wright's Corners; second prize, ten dollars.

John I. Gordon, Mercer, Pa.; third prize, five dollars.

Hampshire Rams, One Year Old.

E. M. Benham, Hopewell Centre; first prize, twenty dollars.

John I. Gordon, Mercer, Pa.; second prize, ten dollars.

Ira J. Hiller & Co., Four Towns, Mich.; third prize, five dollars; one bred by Wm. Newton.

Hampshire Ram Lambs.

John I. Gordon, Mercer, Pa.; first prize, ten dollars.

E. M. Benham, Hopewell Centre; second prize, five dollars.

Ira J. Hiller & Co., Four Towns, Mich.; third prize, three dollars; one bred by Wm. Newton.

Pens of (Two) Hampshire Ewes, Two Years Old or Over.

John I. Gordon, Mercer, Pa.; first prize, twenty dollars.

E. M. Benham, Hopewell Centre; second prize, ten dollars.

Ira J. Hiller & Co., Four Towns, Mich.; third prize, five dollars; one bred by C. & T. Coles.

Pens of (Two) Hampshire Yearling Ewes.

E. M. Benham, Hopewell Centre; first prize, twenty dollars.

John I. Gordon, Mercer, Pa.; second prize, ten dollars.

Ira J. Hiller & Co., Four Towns, Mich.; third prize, five dollars; one bred by C. & T. Coles.

Pens of (Two) Hampshire Ewe Lambs.

E. M. Benham, Hopewell Centre; first prize, ten dollars.

John I. Gordon, Mercer, Pa.; second prize, five dollars.

Wooward & Jaques, Wright's Corners; third prize, three dollars.

OXFORDSHIRES.

Oxfordshire Flock.

Aaron Bordwell, Fargo; gold medal.

Oxfordshire Rams, Two Years Old or Over.

Aaron Bordwell, Fargo; first prize, twenty dollars; Bonaparte, 4138, bred by J. Treadwell.

Aaron Bordwell, Fargo; second prize, ten dollars; Empire State, 3830.

Jared S. Rose, Mertensia; third prize, five dollars.

Oxfordshire Rams, One Year Old.

Aaron Bordwell, Fargo; first prize, twenty dollars; Abe of Newark, 4772, bred by S. F. Price.

Jared S. Rose, Mertensia; second prize, ten dollars; bred by A. Bordwell.

Aaron Bordwell, Fargo; third prize, five dollars; George of Newark, 4779, bred by S. F. Price.

Oxfordshire Ram Lambs.

Aaron Bordwell, Fargo; first prize, ten dollars.

Jared S. Rose, Mertensia; second prize, five dollars.

Jared S. Rose, Mertensia; third prize, three dollars.

Pens of (Two) Oxfordshire Ewes, Two Years Old or Over.

Aaron Bordwell, Fargo; first prize, twenty dollars; Choice of Wayne, 1567, bred by J. E. Powis.

Jared S. Rose, Mertensia; second prize, ten dollars; one bred by A. Bordwell.

R. F. Seeley, Waterloo; third prize, five dollars; imported.

Pens of (Two) Oxfordshire Yearling Ewes.

Aaron Bordwell, Fargo; first prize, twenty dollars.

Jared S. Rose, Mertensia; second prize, ten dollars.

Jared S. Rose, Mertensia; third prize, five dollars.

Pens of (Two) Oxfordshire Ewe Lambs.

Aaron Bordwell, Fargo; first prize, ten dollars.

Aaron Bordwell, Fargo; second prize, five dollars.

Jared S. Rose, Mertensia; third prize, three dollars.

CHEVIOTS.

Cheviot Flock.

William Curry, Hartwick; gold medal.

Cheviot Rams, Two Years Old or Over.

T. N. Curry, Hartwick; first prize, twenty dollars.

William Curry, Hartwick; second prize, ten dollars.

John A. Curry, Hartwick; third prize, five dollars.

Cheviot Rams, One Year Old.

William Curry, Hartwick; first prize, twenty dollars.

T. N. Curry, Hartwick; second prize, ten dollars.

John A. Curry, Hartwick; third prize, five dollars.

Cheviot Ram Lambs.

T. N. Curry, Hartwick; first prize, ten dollars.

William Curry, Hartwick; second prize, five dollars.

T. N. Curry, Hartwick; third prize, three dollars.

Pens of (Two) Cheviot Ewes, Two Years Old or Over.

Geo. Lough, Hartwick; first prize, twenty dollars.

T. N. Curry, Hartwick; second prize, ten dollars.

William Curry, Hartwick; third prize, five dollars.

Pens of (Two) Cheviot Yearling Ewes.

Geo. Lough, Hartwick; first prize, twenty dollars.

T. N. Curry, Hartwick; second prize, ten dollars.

William Curry, Hartwick; third prize, five dollars.

Pens of (Two) Cheviot Ewe Lambs.

Geo. Lough, Hartwick; first prize, ten dollars.

William Curry, Hartwick; second prize, five dollars.

T. N. Curry, Hartwick; third prize, three dollars.

DORSET HORN.

Dorset Horn Flock.

Rutherford Stuyvesant, Allamuchy, N. J.; gold medal.

Dorset Horn Rams, Two Years Old or Over.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, twenty dollars.

Woodward & Jaques, Wright's Corners; second prize, ten dollars.

Woodward & Jaques, Wright's Corners; third prize, five dollars.

Dorset Horn Rams, One Year Old.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, twenty dollars.

Woodward & Jaques, Wright's Corners; second prize, ten dollars.

Rutherford Stuyvesant, Allamuchy, N. J.; third prize, five dollars.

Dorset Horn Ram Lambs.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, ten dollars.

Woodward & Jaques, Wright's Corners; second prize, five dollars

Rutherford Stuyvesant, Allamuchy, N. J.; third prize, three dollars.

Pens of (Two) Dorset Horn Ewes, Two Years Old or Over.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, twenty dollars.

Woodward Jaques, Wright's Corners; second prize, ten dollars.

Pens of (Two) Dorset Horn Yearling Ewes.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, twenty dollars.

Woodward & Jaques, Wright's Corners; second prize, ten dollars.

Woodward & Jaques, Wright's Corners; third prize, five dollars.

Pens of (Two) Dorset Horn Ewe Lambs.

Rutherford Stuyvesant, Allamuchy, N. J.; first prize, ten dollars.

A. C. Chase, Syracuse; second prize, five dollars.

Woodward & Jacques, Wright's Corners; third prize, three dollars.

MERINOS.— A.— BRED FOR FINENESS OF WOOL.

Merino Flock.

P. & G. F. Martin, Rush; gold medal.

Merino Rams, Three Years Old or Over.

J. P. Ray, Hemlock Lake; first prize, twenty dollars.

P. & G. F. Martin, Rush; second prize, ten dollars.

Merino Rams, Two Years Old.

P. & G. F. Martin, Rush; first prize, twenty dollars.

J. Horatio Earll, Skaneateles; second prize, ten dollars; bred by J. D. Sullivan.

Merino Rams, One Year Old.

J. P. Ray, Hemlock Lake; first prize, twenty dollars.

J. Horatio Earll, Skaneateles; second prize, ten dollars; one bred by R. M. Lee.

P. & G. F. Martin, Rush; third prize, five dollars.

Merino Ram Lambs.

P. & G. F. Martin, Rush; first prize, ten dollars.

Davis Cossitt, Onondaga; second prize, five dollars.

S. B. Lusk, Batavia; third prize, three dollars.

Pens of (Two) Merino Ewes, Three Years Old or Over.

Davis Cossitt, Onondaga; first prize, twenty dollars.

J. P. Ray, Hemlock Lake; second prize, ten dollars.

Pens of (Two) Merino Ewes, Two Years Old.

J. P. Ray, Hemlock Lake; first prize, twenty dollars.
P. & G. F. Martin, Rush; second prize, ten dollars.
Davis Cossitt, Onondaga; third prize, five dollars.

Pens of (Two) Merino Yearling Ewes.

C. O. Pattridge, Peoria; first prize, twenty dollars.
Davis Cossitt, Onondaga; second prize, ten dollars.
S. B. Lusk, Batavia; third prize, five dollars.

Pens of (Two) Merino Ewe Lambs.

Davis Cossitt, Onondaga; first prize, ten dollars.
P. & G. F. Martin, Rush; second prize, five dollars.
S. B. Lusk, Batavia; third prize, three dollars.

B.—BRED FOR WEIGHT OF FLEECE.

Merino Flock.

P. & G. F. Martin, Rush; gold medal.

Merino Rams, Three Years Old or Over.

Ray, Beecher & Wynn, Hemlock Lake; first prize, twenty dollars.
W. J. Tyler, South Byron; second prize, ten dollars.
P. & G. F. Martin, Rush; third prize, five dollars.

Merino Rams, Two Years Old.

P. & G. F. Martin, Rush; first prize, twenty dollars.
P. & G. F. Martin, Rush; second prize, ten dollars.
J. Horatio Earll, Skaneateles; third prize, five dollars.

Merino Rams, One Year Old.

J. P. Ray, Hemlock Lake; first prize, twenty dollars.
J. Horatio Earll, Skaneateles; second prize, ten dollars.
H. A. Colton, Borodino; third prize, five dollars; bred by M. B. William.

Merino Ram Lambs.

P. & G. F. Martin, Rush; first prize, ten dollars.
C. O. Pattridge, Peoria; second prize, five dollars.
S. B. Lusk, Batavia; third prize, three dollars.

Pens of (Two) Merino Ewes, Three Years Old or Over

Davis Cossitt, Onondaga; first prize, twenty dollars.
P. & G. F. Martin, Rush; second prize, ten dollars.
J. Horatio Earll, Skaneateles; third prize, five dollars.

Pens of (Two) Merino Ewes, Two Years Old.

J. P. Ray, Hemlock Lake; first prize, twenty dollars.
P. & G. F. Martin, Rush; second prize, ten dollars.
C. O. Pattridge, Peoria; third prize, five dollars.

Pens of (Two) Merino Yearling Ewes.

J. Horatio Earll, Skaneateles; first prize, twenty dollars.
P. & G. F. Martin, Rush; second prize, ten dollars.
S. B. Lusk, Batavia; third prize, five dollars.

Pens of (Two) Merino Ewe Lambs.

P. & G. F. Martin, Rush; first prize, ten dollars.
Davis Cossitt, Onondaga, second prize, five dollars.
J. P. Ray, Hemlock Lake; third prize, three dollars.

DELAINES.

Delaine Rams, Three Years Old or Over.

Davis Cossitt, Onondaga; first prize, twenty dollars.

Delaine Rams, One Year Old.

S. B. Lusk, Batavia; first prize, twenty dollars.
P. & G. F. Martin, Rush; second prize, ten dollars.
Davis Cossitt, Onondaga; third prize, five dollars.

Delaine Ram Lambs.

P. & G. F. Martin, Rush; first prize, ten dollars.
S. B. Lusk, Batavia; second prize, five dollars.

Pens of (Two) Delaine Ewes, Three Years Old or Over.

J. P. Ray, Hemlock Lake; first prize, twenty dollars.
P. & F. G. Martin, Rush; second prize, ten dollars.

Pens of (Two) Delaine Ewes, Two Years Old.

Davis Cossitt, Onondaga; first prize, twenty dollars.

J. P. Ray, Hemlock Lake, second prize, ten dollars.

S. B. Lusk, Batavia; third prize, five dollars.

Pens of (Two) Delaine Yearling Ewes.

Davis Cossitt, Onondaga; first prize, twenty dollars.

C. O. Pattridge, Peoria; second prize, ten dollars.

S. B. Lusk, Batavia; third prize, five dollars.

Pens of (Two) Delaine Ewe Lambs.

P. & G. F. Martin, Rush; first prize, ten dollars.

C. O. Pattridge, Peoria; second prize, five dollars.

S. B. Lusk, Batavia; third prize, three dollars.

OTHER BREEDS.

To any breed of sheep not in the prize list, of which not less than seven animals (at least one of which shall be a ram one year old or over) are shown, the judges in their discretion may award twenty-five dollars, fifteen dollars and ten dollars.

G. H. Bell, Rome; twenty-five dollars; Lincolns.

R. D. Button, Coltons; twenty-five dollars; Black Top or Diskenson Merinos.

Ray Markham, Hemlock Lake; twenty-five dollars; Rambeuillet Merinos.

Rutherford Stuyvesant, Allamuchy, N. J.; twenty-five dollars; Leicesters.

Ira J. Hiller & Co., Four Towns, Mich.; fifteen dollars; Leicesters.

FAT SHEEP.

Pens of (Three) Wethers.

Osborne & Ladd, Victor; first prize, fifteen dollars.

Pens of (Three) Ewes.

John I. Gordon, Mercer, Pa.; first prize, fifteen dollars.

Osborne & Ladd, Victor; second prize, eight dollars.

Osborne & Ladd, Victor; third prize, five dollars.

SWINE.

CHESTER WHITES.

Chester White Herd.

Willis Whinery, Winona, Ohio; gold medal.

Chester White Boars, Over One Year Old.

A. J. Ketcham, Weedsport; first prize, twenty dollars; Buckshot, 5547, and Ben H., 5549, bred by R. H. Hodson.

E. W. Crumb, Onaquaga; second prize, ten dollars; Pride of Brome 5975, bred by S. A. Davis.

Willis Whinery, Winona, Ohio; third prize, five dollars.

Chester White Boars, Under One Year Old.

M. H. Walworth, Hillsdale, Mich.; first prize, twenty dollars.

E. W. Crumb, Onaquaga; second prize, ten dollars; Nero, bred by L. B. Silver.

Willis Whinery, Winona, Ohio; third prize, five dollars.

Chester White Sows, Over One Year Old.

Willis Whinery, Winona, Ohio; first prize, twenty dollars.

Willis Whinery, Winona, Ohio; second prize, ten dollars.

M. H. Walworth, Hillsdale, Mich.; third prize, five dollars.

Chester White Sows, Under One Year Old.

Willis Whinery, Winona, Ohio; first prize, twenty dollars.

Willis Whinery, Winona, Ohio; second prize, ten dollars.

E. W. Crumb, Onaquaga; third prize, five dollars; Crumb's Beaut

Litters of Chester White Pigs (not less than five) Under Three Months Old.

E. W. Crumb, Onaquaga; first prize, ten dollars.

A. J. Ketcham, Weedsport; second prize, five dollars.

CHESHIRES.

Cheshire Herd.

Seneca Dairy Farm, A. E. Vosburgh, manager, Waterloo; gold medal.

Cheshire Boars, Over One Year Old.

Seneca Dairy Farm, A. E. Vosburgh, manager, Waterloo; first prize, twenty dollars.

R. E. Coe, Kirkville; second prize, ten dollars.

L. F. Doolittle, Onaquaga; third prize, five dollars; Duke of the Valley, 1041, bred by A. D. Barnes.

Cheshire Boars, Under One Year Old.

C. C. Phelps, Vernon; first prize, twenty dollars.

Seneca Dairy Farm, A. E. Vosburgh, manager, Waterloo; second prize, ten dollars.

R. E. Coe, Kirkville; third prize, five dollars.

Cheshire Sows, Over One Year Old.

R. E. Coe, Kirkville; first prize, twenty dollars.

Seneca Dairy Farm, A. E. Vosburgh, manager, Waterloo; second prize, ten dollars.

L. F. Doolittle, Onaquaga; third prize, five dollars; Queen of Smithville Flats, 143, bred by A. D. Barnes.

Cheshire Sows, Under One Year Old.

Seneca Dairy Farm, A. E. Vosburgh, manager, Waterloo; first prize, twenty dollars.

R. E. Coe, Kirkville; second prize, ten dollars.

L. F. Doolittle, Onaquaga; third prize, five dollars; Lady, 9.

Litters of Cheshire Pigs (not less than five), Under Three Months Old.

L. F. Doolittle, Onaquaga; first prize, ten dollars.

Seneca Dairy Farm, A. E. Vosburgh, manager, Waterloo; second prize, five dollars.

C. C. Phelps, Vernon; third prize, three dollars.

POLAND CHINAS.

Poland China Herd.

R. F. Seeley, Waterloo; gold medal.

Poland China Boars, Under One Year Old.

R. F. Seeley, Waterloo, first prize, twenty dollars.

R. F. Seeley, Waterloo; second prize, ten dollars.

J. L. Parrish & Sons, New London, Ohio; third prize, five dollars; bred by H. Bradford.

Poland China Boars, Over One Year Old.

R. F. Seeley, Waterloo, first prize, twenty dollars.

John B. Johnson, Ridge Mills; second prize, ten dollars; bred by James Tidball.

J. L. Parrish & Sons, New London, Ohio; third prize, five dollars; bred by Doud & Parrish.

Poland China Sows, Over One Year Old.

J. L. Parrish & Sons, New London, Ohio; first prize, twenty dollars; bred by M. O. Harmon.

R. F. Seeley, Waterloo; second prize, ten dollars.

John B. Johnson, Ridge Mills; third prize, five dollars.

Poland China Sows, Under One Year Old.

John B. Johnson, Ridge Mills; first prize, twenty dollars; bred by Doud & Parrish.

R. F. Seeley, Waterloo; second prize, ten dollars.

J. L. Parish & Sons, New London, Ohio; third prize, five dollars; one bred by M. Long and one bred by Doud & Parrish.

Litters of Poland China Pigs (not less than five), Under Three Months Old.

R. F. Seeley, Waterloo; first prize, ten dollars.

John B. Johnson, Ridge Mills; second prize, five dollars.

H. A. Lamphere, Weedsport; third prize, three dollars.

Duroc Jerseys.

Duroc Jersey Herd.

W. A. Alexander, Scipioville; gold medal.

Duroc Jersey Boars, Over One Year Old

W. A. Alexander, Scipioville; first prize, twenty dollars; Sunrise Prince, 2857.

F. A. Moore, Fulton; second prize, ten dollars; Oswego Chief, bred by C. J. Kingsbury.

Duroc Jersey Boars, Under One Year Old.

W. A. Alexander, Scipioville; first prize, twenty dollars; Sunnyside Boy.

L. Lent, Lent; second prize, ten dollars; bred by H. G. Haviland.

H. G. Haviland, Glens Falls; third prize, five dollars.

Duroc Jersey Sows, Over One Year Old.

W. A. Alexander, Scipioville; first prize, twenty dollars; Sunset Queen, 7188.

W. A. Alexander, Scipioville; second prize, ten dollars; Sunnyside Bess.

H. G. Haviland, Glens Falls; third prize, five dollars; Tirzah Ann, 4508, Ridge Belle, 7746, Ridge Beauty, 7744.

Duroc Jersey Sows, Under One Year Old.

W. A. Alexander, Scipioville; first prize, twenty dollars; Sunnyside Fan.

F. A. Moore, Fulton; second prize, ten dollars; Tirzah Ann 19th; bred by H. G. Haviland.

H. G. Haviland, Glens Falls; third prize, five dollars.

Litters of Duroc Jersey Pigs (not less than five), Under Three Months Old.

F. A. Moore, Fulton; first prize, ten dollars; bred by C. I. Kingsbury.

H. G. Haviland, Glens Falls; second prize, five dollars.

L. Lent, Lent; third prize, three dollars.

SMALL YORKSHIRES.

Small Yorkshire Herd.

Charles McClave, New London, Ohio; gold medal.

Small Yorkshire Boars, Over One Year Old.

Charles McClave, New London, Ohio; first prize, twenty dollars.

Willis Whinery, Winona, Ohio; second prize, ten dollars.

Small Yorkshire Boars, Under One Year Old.

Charles McClave, New London, Ohio; first prize, twenty dollars.

Frank A. Van Ness, Baldwinsville; second prize, ten dollars; bred by Wm. B. Harvey, West Grove, Pa.

Small Yorkshire Sows, Over One Year Old.

Charles McClave, New London, Ohio; first prize, twenty dollars.

Willis Whinery, Winona, Ohio; second prize, ten dollars.

Willis Whinery, Winona, Ohio; third prize, five dollars.

Small Yorkshire Sows, Under One Year Old.

Charles McClave, New London, Ohio; first prize, twenty dollars.

Willis Whinery, Winona, Ohio; second prize, ten dollars.

Frank A. Van Ness, Baldwinsville; third prize, five dollars; bred by Walter Burpee, Philadelphia, Pa.

Litter of Small Yorkshire Pigs (not less than five), Under Three Months Old.

Fred B. Wheeler, Rome; first prize, ten dollars.

BERKSHIRES.

Berkshire Herd.

Knapp Bros., Fabius; gold medal.

Berkshire Boars, Over One Year Old.

Knapp Bros., Fabius; first prize, twenty dollars.

R. E. Coe, Kirkville; second prize, ten dollars.

Knapp Bros., Fabius; third prize, five dollars.

Berkshire Boars, Under One Year Old.

R. E. Coe, Kirkville; first prize, twenty dollars; bred by T. R. Proctor.

Knapp Bros., Fabius; second prize, ten dollars.

G. Howard Davison, Millbrook; third prize, five dollars.

Berkshire Sows, Over One Year Old.

R. E. Coe, Kirkville; first prize, twenty dollars; bred by T. R. Proctor.

Knapp Bros., Fabius; second prize, ten dollars.

G. Howard Davison, Millbrook; third prize, five dollars.

Berkshire Sows, Under One Year Old.

Knapp Bros., Fabius; first prize, twenty dollars.

Knapp Bros., Fabius; second prize, ten dollars.

R. E. Coe, Kirkville; third prize, five dollars; bred by T. R. Proctor.

Litters of Berkshire Pigs (not less than five) Under Three Months Old.

Knapp Bros., Fabius; first prize, ten dollars.

R. E. Coe, Kirkville; second prize, five dollars.

ESSEX.

Essex Herd.

M. H. Walworth, Hillsdale, Mich.; gold medal.

Essex Boars, Over One Year Old.

M. H. Walworth, Hillsdale, Mich.; first prize, twenty dollars.

James Seeley, Geneva; second prize, ten dollars.

M. H. Walworth, Hillsdale, Mich.; third prize, five dollars.

Essex Boars, Under One Year Old.

M. H. Walworth, Hillsdale, Mich.; first prize, twenty dollars.

James Seeley, Geneva; second prize, ten dollars.

C. H. Lockwood, Oswego; third prize, five dollars.

Essex Sows, Over One Year Old.

M. H. Walworth, Hillsdale, Mich.; first prize, twenty dollars.

James Seeley, Geneva; second prize, ten dollars.

James Seeley, Geneva; third prize, five dollars.

Essex Sows, Under One Year Old.

M. H. Walworth, Hillsdale, Mich.; first prize, twenty dollars.

James Seeley, Geneva; second prize, ten dollars.

C. H. Lockwood, Oswego; third prize, five dollars.

Extra Entries.

Certificates of Merit to M. H. Walworth, Hillsdale, Mich., for Suffolks and Victorias.

POULTRY.

ASIATIC.

Pens of Light Brahmas.

John H. Warner, Niskayuna; first prize, five dollars.

John H. Warner, Niskayuna; second prize, three dollars.

John H. Warner, Niskayuna; third prize, one dollar.

Light Brahma Cocks.

John H. Warner, Niskayuna; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
T. O'Brien, Oswego Falls; third prize, twenty-five cents.

Light Brahma Hens.

John H. Warner, Niskayuna; first prize, one dollar.
T. O'Brien, Oswego Falls; second prize, fifty cents.
John H. Warner, Niskayuna; third prize, twenty-five cents.

Light Brahma Cocks.

John H. Warner, Niskayuna; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.

Light Brahma Pullets.

John H. Warner, Niskayuna; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.

Pens of Dark Brahmas.

John H. Warner, Niskayuna; first prize, five dollars.
T. O'Brien, Oswego Falls; second prize, three dollars.

Dark Brahma Cocks.

John H. Warner, Niskayuna; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.

Dark Brahma Hens.

Nelson Gardner, Gilberts' Mills; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
Charles McClave, New London, Ohio; third prize, twenty-five cents.

Dark Brahma Cockerels.

Charles McClave, New London, Ohio; first prize, one dollar.
T. O'Brien, Oswego Falls; second prize, fifty cents.

Dark Brahma Pullets.

Charles McClave, New London, Ohio; first prize, one dollar.
T. O'Brien, Oswego Falls; second prize, fifty cents.

Pens of Buff Cochins.

John H. Warner, Niskayuna; first prize, five dollars.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, three dollars.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, one dollar.

Buff Cochin Cocks.

John H. Warner, Niskayuna; first prize, one dollar.

George H. Kemp, Syracuse; second prize, fifty cents; bred by J. Warner.

John H. Warner, Niskayuna; third prize, twenty-five cents.

Buff Cochin Hens.

John H. Warner, Niskayuna; first prize, one dollar.

John H. Warner, Niskayuna; second prize, fifty cents.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; third prize, twenty-five cents.

Buff Cochin Cockerels.

John H. Warner, Niskayuna; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

John H. Warner, Niskayuna; third prize, twenty-five cents.

Buff Cochin Pullets.

John H. Warner, Niskayuna; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

John H. Warner, Niskayuna; third prize, twenty-five cents.

Pens of Partridge Cochins.

John H. Warner, Niskayuna; first prize, five dollars.

Byron D. Sarr, Marcellus Falls; second prize, three dollars.

Byron D. Sarr, Marcellus Falls; third prize, one dollars.

Partridge Cochin Cocks.

John H. Warner, Niskayuna; first prize, one dollar.

Byron D. Sarr, Marcellus Falls; second prize, fifty cents.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; third prize, twenty-five cents.

Partridge Cochin Hens.

Byron D. Sarr, Marcellus Falls; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
Byron D. Sarr, Marcellus Falls; third prize, twenty-five cents.

Partridge Cochin Cockerels.

Byron D. Sarr, Marcellus Falls; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
Byron D. Sarr, Marcellus Falls; third prize, twenty-five cents.

Partridge Cochin Pullets.

Byron D. Sarr, Marcellus Falls; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
Byron D. Sarr, Marcellus Falls; third prize, twenty-five cents.

Pens of White Cochins.

L. Lent, Lent; second prize, three dollars.

White Cochin Hens.

T. O'Brien, Oswego Falls; first prize, one dollar.

White Cochin Cockerels.

L. Lent, Lent; second prize, fifty cents.

White Cochin Pullets.

L. Lent, Lent; second prize, fifty cents.

Pens of Black Cochins.

Jay M. Seymour, Clark's Mills; second prize, three dollars.

Black Cochin Cocks.

D. A. Carter, Utica; second prize, fifty cents.

Black Cochin Hens.

D. A. Carter, Utica; first prize, one dollar.

Black Cochin Cockerels.

Jay M. Seymour, Clark's Mills; second prize, fifty cents.
Nelson Gardner, Gilbert's Mills; third prize, twenty-five cents.

Black Cochin Pullets.

Jay M. Seymour, Clark's Mills; second prize, fifty cents.

Nelson Gardner, Gilbert's Mills; third prize, twenty-five cents.

Pens of Langshans.

E. A. Martin Milford; first prize, five dollars.

Langshan Cocks.

R. D. Button, Cottons; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, twenty-five cents.

Langshan Hens.

E. A. Martin, Milford; first prize, one dollar.

R. D. Button, Cottons; second prize, fifty cents.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, twenty-five cents.

Langshan Cockerels.

E. A. Martin, Milford; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, twenty-five cents.

Langshan Pullets.

Charles McClave, New London, Ohio; first prize, one dollar.

E. A. Martin, Milford; second prize, fifty cents.

E. A. Martin, Milford; third prize, twenty-five cents.

DORKINGS.

Pens of Colored Dorkings.

R. D. Button, Cottons; first prize, five dollars.

Colored Dorking Cocks.

R. D. Button, Cottons; first prize, one dollar.

Colored Dorking Hens.

R. D. Button, Cottons; first prize, one dollar.

Colored Dorking Cockerels.

R. D. Button, Cottons; first prize, one dollar.

Colored Dorking Pullets.

R. D. Button, Cottons; first prize, one dollar.

Pens of Silver Grey Dorkings.

L. Lent, Lent; first prize, five dollars.

Silver Grey Dorking Cockerels.

R. D. Button, Cottons; first prize, one dollar.
L. Lent, Lent; second prize, fifty cents.

Silver Grey Dorking Pullets.

L. Lent, Lent; first prize, one dollar.
R. D. Button, Cottons; second prize, fifty cents.

White Dorking Cocks.

L. Lent, Lent; first prize, one dollar.
Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

White Dorking Hens.

L. Lent, Lent; first prize, one dollar.
Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

White Dorking Cockerels.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

White Dorking Pullets.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

AMERICAN.

Dominique Cocks.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

C. E. Hart, Caughdenoy; second prize, fifty cents.

O. Howland & Son, De Groff; third prize, twenty-five cents.

Dominique Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Dominique Pullets.

O. Howland & Son, De Groff; first prize, one dollar.

Pens of Barbed Plymouth Rocks.

J. F. Burleigh, Vernon; first prize, five dollars.

T. O'Brien, Oswego Falls; second prize, three dollars.

A. J. Ketcham, Weedsport; third prize, one dollar.

Plymouth Rock Cocks.

O. Howland & Son, De Groff; first prize, one dollar.

R. D. Button, Cottons; second prize, fifty cents.

Plymouth Rock Hens.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; second prize, fifty cents.

Charles McClave, New London, Ohio; third prize, twenty-five cents.

Plymouth Rock Cockerels.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.

J. A. Willis, Tully; second prize, fifty cents.

Charles McClave, New London, Ohio; third prize, twenty-five cents.

Plymouth Rock Pullets.

J. A. Willis, Tully; first prize, one dollar.

Torham Poultry Yards, Geo W. Weed, manager, Hyde Park; second prize, fifty cents.

Charles McClave, New London, Ohio; third prize, twenty-five cents.

Pens of Pea-combed Barbed Plymouth Rock.

Frank Palmerton, Caughdenoy; first prize, five dollars.

R. D. Button, Cottons; second prize, three dollars.

Pea-combed Barbed Plymouth Rock Cocks.

R. D. Button, Cottons; third prize, twenty-five cents.

Pea-combed Barbed Plymouth Rock Hens.

R. D. Button, Cottons; first prize, one dollar.

R. D. Button, Cottons; second prize, fifty cents.

Pea combed Barbed Plymouth Rock Cockerels.

Frank Palmerton, Caughdenoy; first prize, one dollar.

R. D. Button, Cottons; second prize, fifty cents.

Pea-combed Barbed Plymouth Rock Pullets.

R. D. Button, Cottons; first prize, one dollar.

R. D. Button, Cottons; second prize, fifty cents.

Pens of White Plymouth Rocks

D. F. Taylor, De Ruyter; first prize, five dollars.

J. M. Dexter, Camden; second prize, three dollars.

Mrs. I. A. Johnson, South Butler; third prize, one dollar.

White Plymouth Rock Cocks.

D. F. Taylor, De Ruyter; first prize, one dollar.

Emery S. Pugh, Utica; second prize, fifty cents.

F. W. Church, Caughdenoy; third prize, twenty-five cents.

White Plymouth Rock Hens.

T. O'Brien, Oswego Falls; first prize, one dollar.

J. M. Dexter, Camden; second prize, fifty cents.

D. F. Taylor, De Ruyter; third prize, twenty-five cents.

White Plymouth Rock Cockerels.

J. M. Dexter, Camden; first prize, one dollar.

D. F. Taylor, De Ruyter; second prize, fifty cents.

Emery S. Pugh, Utica; third prize, twenty-five cents.

White Plymouth Rock Pullets.

J. M. Dexter, Camden; first prize, one dollar.

D. F. Taylor, De Ruyter; second prize, fifty cents.

F. W. Church, Caughdenoy; third prize, twenty-five cents.

Pens of Silver Wyandottes.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; first prize, five dollars.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, three dollars.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; third prize, one dollar.

Silver Wyandotte Cocks.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, twenty-five cents.

Silver Wyandotte Hens.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, twenty-five cents.

Silver Wyandotte Cockerels.

E. A. Martin, Milford; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

Peter Marsfelder, Syracuse; third prize, twenty-five cents.

Silver Wyandotte Pullets.

E. A. Martin, Milford; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

E. A. Martin, Milford; third prize, twenty-five cents.

Pens of White Wyandottes.

Knapp Bros., Fabius; first prize, five dollars.

Knapp Bros., Fabius; second prize, three dollars.

J. M. Dexter, Camden; third prize, one dollar.

White Wyandotte Cocks.

J. M. Dexter, Camden; first prize, one dollar.

Lona D. Holmes, Syracuse; second prize, fifty cents.

L. W. Van Winkle, Camden; third prize, twenty-five cents.

White Wyandotte Hens.

Knapp Bros., Fabius; first prize, one dollar.

E. A. Martin, Milford; second prize, fifty cents.

J. M. Dexter, Camden; third prize, twenty-five cents.

White Wyandotte Cockerels.

D. F. Taylor, De Ruyter; first prize, one dollar.

J. M. Dexter, Camden; second prize, fifty cents.

Knapp Bros., Fabius; third prize, twenty-five cents.

White Wyandotte Pullets.

J. M. Dexter, Camden; first prize, one dollar.

W. A. Alexander, Scipioville; second prize, fifty cents.

Knapp Bros., Fabius; third prize, twenty-five cents.

Pens of Golden Wyandottes.

H. D. Mason & Son, Fabius; first prize, five dollars.

H. D. Mason & Son, Fabius; second prize, three dollars.

Emery S. Pugh, Utica; third prize, one dollar.

Golden Wyandotte Cocks.

Emery S. Pugh, Utica; first prize, one dollar.

H. D. Mason & Son, Fabius; second prize; fifty cents.

H. D. Mason & Son, Fabius; third prize, twenty-five cents.

Golden Wyandotte Hens.

Emery S. Pugh, Utica; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Emery S. Pugh, Utica; third prize, twenty-five cents.

Golden Wyandotte Cockerels.

H. D. Mason & Son, Fabius; first prize, one dollar.

H. D. Mason & Son, Fabius; second prize, fifty cents.

Emery S. Pugh, Utica; third prize, twenty-five cents.

Golden Wyandotte Pullets.

Emery S. Pugh, Utica; first prize, one dollar.

H. D. Mason & Son, Fabius; second prize, fifty cents.

Cyrus T. Chaffee, Fabius; third prize, twenty-five cents.

Pens of Black Javas.

L. Lent, Lent; first prize, five dollars.

L. W. Van Winkle, Camden; second prize, three dollars.

James Seeley, Geneva; third prize, one dollar.

Black Java Cocks.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Black Java Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Black Java Cockerels.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

L. Lent, Lent; second prize, fifty cents.

L. W. Van Winkle, Camden; third prize, twenty-five cents.

Black Java Pullets.

L. Lent, Lent; first prize, one dollar.

L. W. Van Winkle, Camden; second prize, fifty cents.

Pens of Mottled Javas.

C. W. Eno, Hannibal; first prize, five dollars.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, three dollars.

Mottled Java Cocks.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Mottled Java Hens.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; first prize, one dollar.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, fifty cents.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, twenty-five cents.

Mottled Java Cockerels.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; first prize, one dollar.

Mottled Java Pullets.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; first prize, one dollar.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, fifty cents.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; third prize, twenty-five cents.

Pens of White Javas.

L. Lent, Lent; first prize, five dollars.

White Java Hens.

Charles McClave, New London, Ohio; first prize, one dollar.

White Java Cockerels.

Charles McClave, New London, Ohio; first prize, one dollar.

White Java Pullets.

L. Lent, Lent; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.

Pens of Jersey Blues.

Nelson Gardner, Gilbert's Mills; first prize, five dollars.

Jersey Blue Cocks.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

Jersey Blue Hens.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

Jersey Blue Cockerels.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

Jersey Blue Pullets.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

HAMBURGHS.

Pens of Golden Spangled Hamburghs.

James Seeley, Geneva; first prize, five dollars.
W. A Shafer, Milford; second prize, three dollars.

Golden Spangled Hamburgh Cocks.

A. F. Bronson, Vernon; first prize, one dollar.
W. A. Shafer, Milford; second prize, fifty cents.

Golden Spangled Hamburgh Hens.

A. F. Bronson, Vernon; first prize, one dollar.
O. Howland & Son, De Groff; second prize, fifty cents.

Golden Spangled Hamburgh Cockerels.

James Seeley, Geneva; first prize, one dollar.
Nelson S. Haskell, Auburn; second prize, fifty cents.
W. A. Shafer, Milford; third prize, twenty-five cents.

Golden Spangled Hamburgh Pullets.

James Seeley, Geneva; first prize, one dollar.
Nelson S. Haskell, Auburn; second prize, fifty cents.
W. A. Shafer, Milford; third prize, twenty-five cents.

Pens of Silver Spangled Hamburghs.

R. F. Seeley, Waterloo; first prize; five dollars.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, three dollars.

Lester B. Gunn, Lanesboro, Mass.; third prize, one dollar.

Silver Spangled Hamburgh Cocks.

James Seeley, Geneva; first prize, one dollar.

E. A. Martin, Milford; second prize, fifty cents.

Silver Spangled Hamburgh Hens.

R. F. Seeley, Waterloo; first prize, one dollar.

James Seeley, Geneva; second prize, fifty cents.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; third prize, twenty-five cents.

Silver Spangled Hamburgh Cockerels.

Nelson S. Haskell, Auburn; first prize, one dollar.

E. A. Martin, Milford; second prize, fifty cents.

Silver Spangled Hamburgh Pullets.

Nelson S. Haskell, Auburn; first prize, one dollar.

E. A. Martin, Milford; second prize, fifty cents.

E. A. Martin, Milford; third prize, twenty-five cents.

Pens of Golden Penciled Hamburghs.

W. A. Shafer, Milford; first prize, five dollars.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, three dollars.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, one dollar.

Golden Penciled Hamburgh Cocks.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; first prize, one dollar.

W. A. Shafer, Milford; second prize, fifty cents.

Golden Penciled Hamburgh Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

W. A. Shafer, Milford; second prize, fifty cents.

O. Howland & Son, De Groff; third prize, twenty-five cents.

Golden Penciled Hamburgh Cockerels.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

W. A. Shafer, Milford; second prize, fifty cents.

Golden Penciled Hamburgh Pullets.

W. A. Shafer, Milford; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Charles McClave, New London, Ohio; third prize, twenty-five cents.

Pens of Silver Spangled Hamburghs.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, five dollars.

W. A. Shafer, Milford; second prize, three dollars.

Silver Penciled Hamburgh Cocks.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; second prize, fifty cents.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, twenty-five cents.

Silver Penciled Hamburgh Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; second prize, fifty cents.

O. Howland & Son, De Groff; third prize, twenty-five cents.

Silver Penciled Hamburgh Cockerels.

W. A. Shafer, Milford; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

W. A. Shafer, Milford; third prize, twenty-five cents.

Silver Penciled Hamburgh Pullets.

W. A. Shafer, Milford; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

W. A. Shafer, Milford; third prize, twenty-five cents.

Pens of White Hamburghs.

Nelson Gardner, Gilbert's Mills; first prize, five dollars.

White Hamburgh Cocks.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

White Hamburgh Hens.

W. A. Shafer, Milford; first prize, one dollar.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

White Hamburgh Cockerels.

W. A. Shafer, Milford; first prize, one dollar.

White Hamburgh Pullets.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

Pens of Black Hamburghs.

E. A. Martin, Milford; first prize, five dollars.

Black Hamburgh Cocks.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

W. A. Shafer, Milford; second prize, fifty cents.

Black Hamburgh Hens.

W. A. Shafer, Milford; first prize, one dollar.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

Black Hamburgh Cockerels.

W. A. Shafer, Milford; first prize, one dollar.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

Black Hamburgh Pullets.

W. A. Shafer, Milford; first prize, one dollar.

W. A. Shafer, Milford; second prize, fifty cents.

E. A. Martin, Milford; third prize, twenty-five cents.

Red Cap Cocks.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Red Cap Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Red Cap Cockerels.

C. W. Eno, Hannibal; first prize, one dollar.

C. W. Eno, Hannibal; second prize, fifty cents.

Charles McClave, New London, Ohio; third prize, twenty-five cents.

Red Cap Pullets.

Charles McClave, New London, Ohio; first prize, one dollar.

C. W. Eno, Hannibal; second prize, fifty cents.

C. W. Eno, Hannibal; third prize, twenty-five cents.

MEDITERRANEAN.

Pens of Black Spanish.

E. A. Martin, Milford; first prize, five dollars.

Black Spanish Cocks.

Charles McClave, New London, Ohio; first prize, one dollar.

Black Spanish Hens.

W. A. Shafer, Milford; first prize, one dollar.

O. Howland & Son, De Groff; second prize, fifty cents.

Black Spanish Cockerels.

Nelson S. Haskell, Auburn; first prize, one dollar.

Black Spanish Pullets.

Nelson S. Haskell, Auburn; second prize, fifty cents.

Pens of White Leghorns.

Knapp Bros., Fabius; first prize, five dollars.

Frank Palmerton, Caughdenoy; second prize, three dollars.

Knapp Bros., Fabius; third prize, one dollar.

White Leghorn Cocks.

Knapp Bros., Fabius; first prize, one dollar.

Knapp Bros., Fabius; second prize, fifty cents.

White Leghorn Hens.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; first prize, one dollar.

Knapp Bros., Fabius; second prize, fifty cents.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; third prize, twenty-five cents.

White Leghorn Cockerels.

Knapp Bros., Fabius; first prize, one dollar.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, fifty cents.

Knapp Bros., Fabius; third prize, twenty-five cents.

White Leghorn Pullets.

Knapp Bros., Fabius; first prize, one dollar.

Torham Poultry Yards, George W. Weed, manager, Hyde Park; second prize, fifty cents.

Knapp Bros., Fabius; third prize, twenty-five cents.

Pens of Rose-combed White Leghorns.

B. R. Knapp, Cortland; first prize, five dollars.

B. R. Knapp, Cortland; second prize, three dollars.

T. T. Clough, Syracuse; third prize, one dollar.

Rose-combed White Leghorn Cocks.

R. D. Button, Cottons; first prize, one dollar.

B. R. Knapp, Cortland; second prize, fifty cents.

B. R. Knapp, Cortland; third prize, twenty-five cents.

Rose-combed White Leghorn Hens.

B. R. Knapp, Cortland; first prize, one dollar.
R. D. Button, Cottons; second prize, fifty cents.
T. T. Clough, Syracuse; third prize, twenty-five cents.

Rose-combed White Leghorn Cockerels.

R. D. Button, Cottons; first prize, one dollar.
B. R. Knapp, Cortland; second prize, fifty cents.
T. T. Clough, Syracuse; third prize, twenty-five cents.

Rose-combed White Leghorn Pullets.

Charles McClave, New London, Ohio; first prize, one dollar.
B. R. Knapp, Cortland; second prize, fifty cents.
B. R. Knapp, Cortland; third prize, twenty-five cents.

Pens of Brown Leghorns.

E. A. Martin, Milford; first prize, five dollars.
George H. Gallinger, Fabius; second prize, three dollars.
George H. Gallinger, Fabius; third prize, one dollar.

Brown Leghorn Cocks.

E. A. Martin, Milford; first prize, one dollar.
Mrs. I. A. Johnson, South Butler; second prize, fifty cents.
Charles McClave, New London, Ohio; third prize, twenty-five cents.

Brown Leghorn Hens.

George H. Gallinger, Fabius; first prize, one dollar.
C. C. Phelps, Vernon; second prize, fifty cents.
O. Howland & Son, De Groff; third prize, twenty-five cents.

Brown Leghorn Cockerels.

E. A. Martin, Milford; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.
George H. Gallinger, Fabius; third prize, twenty-five cents.

Brown Leghorn Pullets,

Mrs. I. A. Johnson, South Butler; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.
E. A. Martin, Milford; third prize, twenty-five cents.

Pens of Rose-combed Brown Leghorns.

J. F. Burleigh, Vernon; first prize, five dollars.
R. D. Button, Cottons; second prize, three dollars.

Rose-combed Brown Leghorn Cocks.

R. D. Button, Cottons; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.

Rose-combed Brown Leghorn Hens.

R. D. Button, Cottons; first prize, one dollar.
R. D. Button, Cottons; second prize, fifty cents.
C. O. Pattridge, Peoria; third prize, twenty five cents.

Rose-combed Brown Leghorn Cockerels.

R. D. Button, Cottons; first prize, one dollar.
C. O. Pattridge, Peoria; second prize, fifty cents.
E. A. Martin, Milford; third prize, twenty-five cents.

Rose-combed Brown Leghorn Pullets.

R. D. Button, Cottons; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.
R. D. Button, Cottons; third prize, twenty-five cents.

Pens of Black Leghorns.

D. A. Carter, Utica; first prize, five dollars.
Nelson Gardner, Gilbert's Mills; second prize, three dollars.

Black Leghorn Cockerels.

E. A. Martin, Milford; first prize, one dollar.
E. A. Martin, Milford; second prize, fifty dollars.

Black Leghorn Pullets.

E. A. Martin, Milford; first prize, one dollar.
E. A. Martin, Milford; second prize, fifty dollars.
E. A. Martin, Milford; third prize, twenty-five cents.

Andalusian Cocks.

T. O'Brien, Oswego Falls; first prize, one dollar.

Andalusian Hens.

T. O'Brien, Oswego Falls; first prize, one dollar.

T. O'Brien, Oswego Falls; second prize, fifty cents.

Andalusian Cockerels.

Como Poultry Yards, Arthur L. Garner, manager, Vermillion; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Andalusian Pullets.

Charles McClave, New London, Ohio; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Pens of Black Minorcas.

L. Garrison & Co., Syracuse; first prize, five dollars.

L. Garrison & Co., Syracuse; second prize, three dollars.

Emery S. Pugh, Utica; third prize, one dollar.

Black Minorca Cocks.

Emery S. Pugh, Utica; first prize, one dollar.

L. Garrison & Co., Syracuse; second prize, fifty cents.

C. C. Phelps, Vernon; third prize, twenty-five cents.

Black Minorca Hens.

L. Garrison & Co., Syracuse; first prize, one dollar.

L. Garrison & Co., Syracuse; second prize, fifty cents.

L. Garrison & Co., Syracuse; third prize, twenty-five cents.

Black Minorca Cockerels.

Emery S. Pugh, Utica; first prize, one dollar.

L. Garrison & Co., Syracuse; second prize, fifty cents.

Emery S. Pugh, Utica; third prize, twenty-five cents.

Black Minorca Pullets.

L. Garrison & Co., Syracuse; first prize, one dollar.

Emery S. Pugh, Utica; second prize, fifty cents.

L. Garrison & Co., Syracuse; third prize, twenty-five cents.

Pens of White Minorcas.

Charles W. Jerome, Fabius; first prize, five dollars.

E. A. Martin, Milford; second prize, three dollars.

Charles W. Jerome, Fabius; third prize, one dollar.

White Minorca Cocks.

E. A. Martin, Milford; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Charles W. Jerome, Fabius; third prize, twenty-five cents.

White Minorca Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Charles W. Jerome, Fabius; second prize, fifty cents.

White Minorca Cockerels.

Charles W. Jerome, Fabius; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

E. A. Martin, Milford; third prize, twenty-five cents.

White Minorca Pullets.

Charles W. Jerome, Fabius; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

E. A. Martin, Milford; third prize, twenty-five cents.

FRENCH.

Crevecoeur Cocks.

W. A. Shafer, Milford; first prize, one dollar.

Crevecoeur Hens.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

Crevecoeur Cockerels.

Jay M. Seymour, Clark's Mills; first prize, one dollar.

Jay M. Seymour, Clark's Mills; second prize, fifty cents.

Crevecoeur Pullets.

Jay M. Seymour, Clark's Mills; first prize, one dollar.
Jay M. Seymour, Clark's Mills; second prize, fifty cents.

Pens of Houdans.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, five dollars.
R. D. Button, Cottons; second prize, three dollars.

Houdan Cocks.

R. E. Coe, Kirkville; first prize, one dollar; bred by D. Pinkney.
R. D. Button, Cottons; second prize, fifty cents.

Houdan Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.
R. E. Coe, Kirkville; second prize, fifty cents.
R. D. Button, Cottons; third prize, twenty-five cents.

Houdan Cockerels.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Houdan Pullets.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.
R. D. Button, Cottons; second prize, fifty cents.

Pens of La Fleche.

Nelson Gardner, Gilbert's Mills; first prize, five dollars.

La Fleche Cocks.

Jay M. Seymour, Clark's Mills; first prize, one dollar.
Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

La Fleche Hens.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.
Jay M. Seymour, Clark's Mills; second prize, fifty cents.

La Fleche Cockerels.

Jay M. Seymour, Clark's Mills; first prize, one dollar.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

La Fleche Pullets.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.

Jay M. Seymour, Clark's Mills; second prize, fifty cents.

POLISH.

Pens of White-crested Black Polish.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, five dollars.

White-crested Black Polish Cocks.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; second prize, fifty cents.

Charles McClave, New London, Ohio; third prize, twenty-five cents.

White-crested Black Polish Hens.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; first prize, one dollar.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, fifty cents.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, twenty-five cents.

Pens of White-bearded Polish.

T. W. Jones, Maynard; first prize, five dollars.

White-bearded Polish Cocks.

G. Arthur Bell, Rome; first prize, one dollar.

T. W. Jones, Maynard; second prize, fifty cents.

White-bearded Polish Hens.

G. Arthur Bell, Rome; first prize, one dollar.

T. W. Jones, Maynard; second prize, fifty cents.

Pens of Silver-bearded Polish.

D. A. Carter, Utica; first prize, five dollars.

James Seeley, Geneva; second prize, three dollars.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, one dollar.

Silver-bearded Polish Cocks.

Charles McClave, New London, Ohio; first prize, one dollar.

James Seeley, Geneva; second prize, fifty cents.

D. A. Carter, Utica; third prize, twenty-five cents.

Silver-bearded Polish Hens.

Charles McClave, New London, Ohio; first prize, one dollar.

D. A. Carter, Utica; second prize, fifty cents.

Silver-bearded Polish Cockerels.

Charles McClave, New London, Ohio; first prize, one dollar.

James Seeley, Geneva; second prize, fifty cents.

Silver-bearded Polish Pullets.

James Seeley, Geneva; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

Buff Polish Cocks.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

Buff Polish Hens.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, one dollar.

GAMES.

Pens of Black-breasted Red Games.

Lester B. Gunn, Lanesboro, Mass.; first prize, five dollars.

E. A. Martin, Milford; second prize, three dollars.

E. A. Martin, Milford; third prize, one dollar.

Black-breasted Red Game Cocks.

E. A. Martin, Milford; first prize, one dollar.

Milo Bills, Auburn; second prize, fifty cents; bred by George Furness.

O. Howland & Son, De Groff; third prize, twenty-five cents.

Black-breasted Red Game Hens.

E. A. Martin, Milford; first prize, one dollar.

T. C. Stanton, Rochester; second prize, fifty cents.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, twenty-five cents.

Black-breasted Red Game Cockerels.

E. A. Martin, Milford; first prize, one dollar.

Black-breasted Red Game Pullets.

E. A. Martin, Milford; first prize, one dollar.

Brown-breasted Red Game Cocks.

Milo Bills, Auburn; second prize, fifty cents.

Brown-breasted Red Game Hens.

Milo Bills, Auburn; third prize, twenty-five cents.

Brown-breasted Red Game Cockerels.

M. Kleason, Rochester; first prize, one dollar.

Brown-breasted Red Game Pullets.

M. Kleason, Rochester; first prize, one dollar.

Pens of Silver Duck-wing Games.

Lester B. Gunn, Lanesboro, Mass.; second prize, three dollars.

Pens of Golden Duck-wing Games.

Lester B. Gunn, Lanesboro, Mass.; first prize, five dollars.

Red Pile Game Cocks.

Milo Bills, Auburn; first prize, one dollar.

Red Pile Game Hens.

Milo Bills, Auburn; first prize, one dollar.

Black Game Cocks.

Milo Bills, Auburn; second prize, fifty cents.

Black Game Hens.

Milo Bills, Auburn; second prize, fifty cents.
Milo Bills, Auburn; third prize, twenty-five cents.

White Game Cocks

O. Howland & Son, De Groff; second prize, fifty cents.

White Game Hens.

Nelson Gardner, Gilbert's Mills; first prize, one dollar.
Milo Bills, Auburn; third prize, twenty-five cents.

Pens of Black Sumatra.

Lester B. Gunn, Lanesboro, Mass.; first prize, five dollars.

Black Sumatra Game Cocks.

E. A. Martin, Milford; first prize, one dollar.

Black Sumatra Game Hens.

E. A. Martin, Milford; first prize, one dollar.

Malay Game Hens.

R. P. Burghart, Caughdenoy; first prize, one dollar.

Malay Game Cockerels.

R. P. Burghart, Caughdenoy; first prize, one dollar.

EXTRA ENTRIES.

Black-red Pet Game Cock.

Milo Bills, Auburn; certificate of merit.

Pens of Indian Games.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; certificate of merit.

Indian Game Cocks.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; certificate of merit.

Indian Game Cockerels and Pullets.

Cyrus T. Chaffee, Fabius; certificate of merit.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; certificate of merit.

GAME BANTAMS.

Pens of Black-breasted Game Bantams.

T. C. Stanton, Rochester; first prize, five dollars.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, three dollars.

Black-breasted Red Game Bantam Cocks.

Adrian W. Smith, Whitesboro; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

O. Howland & Son, De Groff; third prize, twenty-five cents.

Black-breasted Red Game Bantam Hens.

Charles McClave, New London, Ohio; first prize, one dollar.

Adrian W. Smith, Whitesboro; second prize, fifty cents.

O. Howland & Son, De Groff; third prize, twenty-five cents.

Black-breasted Red Game Bantam Cockerels.

C. E. Rockenstyre, Albany; first prize, one dollar.

Adrian W. Smith, Whitesboro; second prize, fifty cents.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; third prize, twenty-five cents.

Black-breasted Red Game Bantam Pullets.

T. C. Stanton, Rochester; first prize, one dollar.

C. E. Rockenstyre, Albany; second prize, fifty cents.

John H. Warner, Niskayuna; third prize, twenty-five cents.

Pens of Brown-breasted Red Game Bantams.

T. C. Stanton, Rochester; first prize, five dollars.

T. C. Stanton, Rochester; second prize, three dollars.

Brown-breasted Red Game Bantam Cocks.

Adrian W. Smith, Whitesboro; first prize, one dollar.

Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

Brown-breasted Red Game Bantam Hens.

Adrian W. Smith, Whitesboro; first prize, one dollar.
Nelson Gardner, Gilbert's Mills; second prize, fifty cents.

Brown-breasted Red Game Bantam Cockerels.

T. C. Stanton, Rochester; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.

Brown-breasted Red Game Bantam Pullets.

M. Kleason, Rochester; first prize, one dollar.

Pens of Red Pile Game Bantams.

John H. Warner, Niskayuna; first prize, five dollars.
T. C. Stanton, Rochester; second prize, three dollars.
John H. Warner, Niskayuna; third prize, one dollar.

Red Pile Game Bantam Cocks.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.
Adrian W. Smith, Whitesboro; second prize, fifty cents; bred by G. A. Francis.
M. Kleason, Rochester; third prize, twenty-five cents.

Red Pile Game Bantam Hens.

Adrian W. Smith, Whitesboro; first prize, one dollar; bred by G. A. Francis.

Red Pile Game Bantam Cockerels.

John H. Warner, Niskayuna; first prize, one dollar.
Adrian W. Smith, Whitesboro; second prize, fifty cents; bred by G. A. Francis.
M. Kleason, Rochester; third prize, twenty-five cents.

Red Pile Game Bantam Pullets.

Adrian W. Smith, Whitesboro; first prize, one dollar; bred by G. A. Francis.
Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

White Game Bantam Cocks.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.

White Game Bantam Hens.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

M. Kleason, Rochester; third prize, twenty-five cents.

White Game Bantam Cockerels.

M. Kleason, Rochester; first prize, one dollar.

Adrian W. Smith, Whitesboro; second prize, fifty cents.

White Game Bantam Pullets.

Adrian W. Smith, Whitesboro; first prize, one dollar.

Pens of Silver Duck-wing Game Bantams.

Adrian W. Smith, Whitesboro; first prize, five dollars.

T. C. Stanton, Rochester; second prize, three dollars.

Silver Duck-wing Game Bantam Cocks.

Adrian W. Smith, Whitesboro; first prize, one dollar.

M. Kleason, Rochester; second prize, fifty cents.

Silver Duck-wing Game Bantam Hens.

Adrian W. Smith, Whitesboro; first prize, one dollar.

W. A. Shafer, Milford; second prize, fifty cents.

Silver Duck-wing Game Bantam Pullets.

M. Kleason, Rochester; first prize, one dollar.

Pens of Golden Duck-wing Game Bantams.

M. Kleason, Rochester; first prize, five dollars.

Golden Duck-wing Game Bantam Cocks.

Adrian W. Smith, Whitesboro; first prize, one dollar.

Golden Duck-wing Game Bantam Hens.

Adrian W. Smith, Whitesboro; first prize, one dollar.

Pens of Black Game Bantams.

M. Kleason, Rochester; first prize, five dollars.

Black Game Bantam Cocks.

W. A. Shafer, Milford; second prize, fifty cents.
Adrian W. Smith, Whitesboro; third prize, twenty-five cents.

Black Game Bantam Hens.

Adrian W. Smith, Whitesboro; second prize, fifty cents.
W. A. Shafer, Milford; third prize, twenty-five cents.

Black Game Bantam Cockerels.

C. E. Rockenstyre, Albany; second prize, fifty cents.
C. E. Rockenstyre, Albany; third prize, twenty-five cents.

Black Game Bantam Pullets.

C. E. Rockenstyre, Albany; second prize, fifty cents.

EXTRA ENTRIES.

Indian Game Bantams.

Woodlawn Park Poultry Yards, F. W. Taylor, manager, Saratoga Springs; certificate of merit.

BANTAMS (OTHER THAN GAME).

Pens of Golden Seabrights.

M. Kleason, Rochester; first prize, five dollars.
C. E. Rockenstyre, Albany, second prize, three dollars.

Golden Seabright Cocks.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Golden Seabright Hens.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Golden Seabright Cockerels.

C. E. Rockenstyre, Albany; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.

Golden Seabright Pullets.

M. Kleason, Rochester; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
C. E. Rockenstyre, Albany; third prize, twenty-five cents.

Pens of Silver Seabrights.

John H. Warner, Niskayuna; first prize, five dollars.
C. E. Rockenstyre, Albany; second prize, three dollars.
M. Kleason, Rochester; third prize, one dollar.

Silver Seabright Cocks.

C. E. Rockenstyre, Albany; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Silver Seabright Hens.

W. A. Shafer, Milford; first prize, one dollar.
John H. Warner, Niskayuna; second prize, fifty cents.
John H. Warner, Niskayuna; third prize, twenty-five cents.

Silver Seabright Cockerels.

C. E. Rockenstyre, Albany; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.
John H. Warner, Niskayuna; third prize, twenty-five cents.

Silver Seabright Pullets.

John H. Warner, Niskayuna; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Pens of Rose-combed Blacks.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; first prize, five dollars.
M. Kleason, Rochester; second prize, three dollars.
Nelson Gardner, Gilbert's Mills; third prize, one dollar.

Rose-combed Black Cock.

Charles McClave, New London, Ohio; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
W. A. Shafer, Milford; third prize, twenty-five cents.

Rose-combed Black Hens.

C. E. Rockenstyre, Albany; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Rose-combed Black Cockerels.

C. E. Rockenstyre, Albany; first prize, one dollar.
Charles McClave, New London, Ohio; second prize, fifty cents.

Rose-combed Black Pullets.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
Charles McClave, New London, Ohio; third prize, twenty-five cents.

Pens of Rose-combed Whites.

C. E. Rockenstyre, Albany; first prize, five dollars.
M. Kleason, Rochester; second prize, three dollars.

Rose-combed White Cocks.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.

Rose-combed White Hens.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Rose-combed White Cockerels.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Rose-combed White Pullets.

C. E. Rockenstyre, Albany; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Pens of Booted Whites.

M. Kleason, Rochester; first prize, five dollars.

Booted White Cocks.

M. Kleason, Rochester; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.

Booted White Hens.

C. E. Rockenstyre, Albany; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.

Booted White Cockerels.

M. Kleason, Rochester; first prize, one dollar.

Booted White Pullets.

M. Kleason, Rochester; first prize, one dollar.

Pens of Japanese.

C. E. Rockenstyre, Albany; first prize, five dollars.

Japanese Cocks.

M. Kleason, Rochester; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

Japanese Hens.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; first prize, one dollar.
M. Kleason, Rochester; second prize, fifty cents.
Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; third prize, twenty-five cents.

Japanese Cockerels.

Charles McClave, New London, Ohio; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
C. E. Rockenstyre, Albany; third prize, twenty-five cents.

Japanese Pullets.

C. E. Rockenstyre, Albany; first prize, one dollar.

Charles McClave, New London, Ohio; second prize, fifty cents.

M. Kleason, Rochester; third prize, twenty-five cents.

Pens of Pekins or Cochins.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; first prize, five dollars.

C. E. Rockenstyre, Albany; second prize, three dollars.

C. E. Rockenstyre, Albany; third prize, one dollar.

Pekin or Cochin Cocks.

C. E. Rockenstyre, Albany; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

C. E. Rockenstyre, Albany; third prize, twenty-five cents.

Pekin or Cochin Hens.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs, first prize, one dollar.

C. E. Rockenstyre, Albany; second prize, fifty cents.

Milo Bills, Auburn; third prize, twenty-five cents; bred by C. Bills.

Pekin or Cochin Cockerels.

C. E. Rockenstyre, Albany; first prize, one dollar.

M. Kleason, Rochester; second prize, fifty cents.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; third prize, twenty-five cents.

Pekin or Cochin Pullets.

M. Kleason, Rochester; first prize, one dollar.

Torham Poultry Yards, Geo. W. Weed, manager, Hyde Park; second prize, fifty cents.

Pens of White-crested White Polish.

C. E. Rockenstyre, Albany; first prize, five dollars.

M. Kleason, Rochester; second prize, three dollars.

White-crested White Polish Cocks.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

White-crested White Polish Hens.

C. E. Rockenstyre, Albany; first prize, one dollar.
C. E. Rockenstyre, Albany; second prize, fifty cents.
M. Kleason, Rochester; third prize, twenty-five cents.

TURKEYS.

Bronze.

E. A. Martin, Milford; first prize, five dollars.
Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; second prize, three dollars.
Charles McClave, New London, Ohio; third prize, two dollars.

White.

R. F. Seeley, Waterloo; first prize, five dollars.
R. F. Seeley, Waterloo; second prize, three dollars.
A. J. Ketcham, Weedsport; third prize, two dollars.

Slate.

R. F. Seeley, Waterloo; first prize, five dollars.
R. F. Seeley, Waterloo; second prize, three dollars.

Black.

James Seeley, Geneva; first prize, five dollars.
Charles McClave, New London, Ohio; second prize, three dollars.
Eugene Burlingame, Albany; third prize, two dollars.

GEESE.

Toulouse.

Charles McClave, New London, Ohio; first prize, five dollars.
James Seeley, Geneva; second prize, three dollars.
T. W. Jones, Maynard; third prize, two dollars.

Embden.

Charles McClave, Waterloo; first prize, five dollars.
T. W. Jones, Maynard; second prize, three dollars.

White Chinese.

W. A. Shafer, Milford; first prize, five dollars.
W. A. Shafer, Milford; second prize, three dollars.
Charles McClave, New London, Ohio; third prize, two dollars.

Brown Chinese.

W. A. Shafer, Milford; first prize, five dollars.
Charles McClave, New London, Ohio; second prize, three dollars.

African.

W. A. Shafer, Milford; second prize, three dollars.

Wild.

Milo Bills, Auburn; first prize, five dollars.

DUCKS.

Rouen.

Charles McClave, New London, Ohio; first prize, three dollars.
R. E. Coe, Kirkville; second prize, two dollars.
G. Howard Davison; third prize, one dollar.

Aylesbury.

James Seeley, Geneva; first prize, three dollars.
Charles McClave, New London, Ohio; second prize, two dollars.

Cayuga.

H. A. Lamphere, Weedsport; first prize, three dollars.
W. A. Shafer, Milford; second prize, two dollars.
W. A. Shafer, Milford; third prize, one dollar.

Colored Muscovy.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, three dollars.

Pekin.

L. Garrison & Co., Syracuse; first prize, three dollars.

E. A. Martin, Milford; second prize, two dollars.

E. A. Martin, Milford; third prize, one dollar.

Crested White.

Nelson Gardner, Gilbert's Mills; first prize, three dollars.

Charles McClave, New London, Ohio; second prize, two dollars.

East India.

Charles McClave, New London, Ohio; first prize, three dollars.

Grey Call.

Woodlawn Park Poultry Yards, F. W. Gaylor, manager, Saratoga Springs; first prize, three dollars.

White Call.

Lester B. Gunn, Lanesboro, Mass.; first prize, three dollars.

Charles McClave, New London, Ohio; second prize, two dollars.

ORNAMENTAL FOWLS.

Pearl Guinea Fowls.

Charles McClave, New London, Ohio; first prize, three dollars.

R. F. Seeley, Waterloo; second prize, two dollars.

E. A. Martin, Milford; third prize, one dollar.

White Guinea Fowls.

Charles McClave, New London, Ohio; first prize, three dollars.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; second prize, two dollars.

T. W. Jones, Maynard; third prize, one dollar.

Pea Fowls.

G. Arthur Bell, Rome; first prize, three dollars.

J. B. Underwood, East Scott; second prize, two dollars.

English Pheasants.

Milo Bills, Auburn; first prize, three dollars.

Silkies.

C. E. Rockenstyre, Albany; first prize, three dollars.

Pigeons.

Fred. Filsinger, Syracuse; first prize, three dollars; pied.
Fred. Filsinger, Syracuse; second prize, two dollars.
Fred. Filsinger, Syracuse; third prize, one dollar.

Carriers.

T. C. Stanton, Rochester; first prize, three dollars.

Antwerps.

Frank Broughton, Onondaga; first prize, three dollars.
Fred. Filsinger, Syracuse; second prize, two dollars.
Fred. Filsinger, Syracuse; third prize, one dollar.

Tumblers (Short Faced).

T. C. Stanton, Rochester; first prize, three dollars.
Frank Broughton, Onondaga; second prize, two dollars.
L. D. Holmes, Syracuse; third prize, one dollar.

Barbs.

Como Poultry Yards, Arthur L. Gardner, manager, Vermillion; first prize, three dollars.
T. C. Stanton, Rochester; third prize, one dollar.

Turbits (Winged).

T. C. Stanton, Rochester; first prize, three dollars.
T. C. Stanton, Rochester; second prize, two dollars.

Owls (Solid Color).

Frank Broughton, Onondaga; first prize, three dollars.

Fantails.

L. D. Holmes, Syracuse; first prize, three dollars.
L. D. Holmes, Syracuse; second prize, two dollars.
L. D. Holmes, Syracuse; third prize, one dollar.

Jacobins.

L. D. Holmes, Syracuse; first prize, three dollars.
Fred. Filsinger, Syracuse; second prize, two dollars.
L. D. Holmes, Syracuse; third prize, one dollar.

Ring Doves.

W. A. Shafer, Milford; first prize, three dollars.
E. A. Martin, Milford; second prize, two dollars.
W. A. Shafer, Milford; third prize, one dollar.

Collection of Pouters.

F. A. Crofoot, Fleming; first prize, three dollars.

Collection of Fantails.

L. D. Holmes, Syracuse; first prize, three dollars.

Collection of Jacobins.

L. D. Holmes, Syracuse; first prize, three dollars.
Fred. Filsinger, Syracuse; second prize, two dollars.

Collection of Antwerps.

Fred. Filsinger, Syracuse; first prize, three dollars.
Frank Broughton, Onondaga; second prize, two dollars.

RABBITS.

Long-eared.

Milo Bills, Auburn; first prize, three dollars.

Angora.

Arthur C. Wales, Syracuse; first prize, three dollars.
R. D. Button, Cottons; second prize, two dollars.
Arthur C. Wales, Syracuse; third prize, one dollar.

FARM PRODUCE.

GRAIN, SEED, HOPS, POSITIVELY GROWN IN 1892.

White Winter Wheat.

M. F. Pierson, Seneca Castle; first prize, ten dollars.
James Miller, Penn Yan; second prize, five dollars.
S. Spencer & Son, Kiantone; third prize, two dollars.

Red Winter Wheat.

John B. Johnson, Ridge Mills; first prize, ten dollars.
Charles Coolidge, Phelps; second prize, five dollars.
James Miller, Penn Yan; third prize, two dollars.

White Spring Wheat.

E. Van Allen & Bro., Delmar; first prize, ten dollars.

Red Spring Wheat.

Charles N. Tuttle, Clockville; first prize, ten dollars.
E. Van Allen & Bro., Delmar; second prize, five dollars.

Winter Rye.

Charles N. Tuttle, Clockville; first prize, ten dollars.
Charles Coolidge, Phelps; second prize, five dollars.
Francis Bradt, Bethlehem Centre; third prize, two dollars.

Spring Rye.

Charles Coolidge, Phelps; first prize, ten dollars.
E. Van Allen & Bro., Delmar; second prize, five dollars.
Francis Bradt, Bethlehem Centre; third prize, two dollars.

White Oats.

E. Van Allen & Bro., Delmar; first prize, ten dollars.
John McCann, Elmira; second prize, five dollars.
John B. Johnson, Ridge Mills; third prize, two dollars.

Black or Grey Oats.

Charles Coolidge, Phelps; first prize, ten dollars.
John McCann, Elmira; second prize, five dollars.
E. Van Allen & Bro., Delmar; third prize, two dollars.

Two-rowed Spring Barley.

Charles N. Tuttle, Clockville; first prize, ten dollars.
John B. Johnson, Ridge Mills; second prize, five dollars.

Four-rowed Spring Barley.

E. Van Allen & Bro., Delmar; first prize, ten dollars.
Charles N. Tuttle, Clockville; second prize, five dollars.

Field Beans, Large.

Charles Coolidge, Phelps; first prize, ten dollars.
E. Van Allen & Bro., Delmar; second prize, five dollars.

Field Beans, Small.

H. A. Lamphere, Weedsport; first prize, ten dollars.
Charles Coolidge, Phelps; second prize, five dollars.
Francis Bradt, Bethlehem Centre; third prize, two dollars.

Field Peas, Large.

Howard Bros., Rochester; first prize, ten dollars.
E. Van Allen & Bro., Delmar; second prize, five dollars.

Field Peas, Small.

Howard Bros., Rochester; first prize, ten dollars.
H. A. Lamphere, Weedsport; second prize, five dollars.
E. Van Allen & Bro., Delmar; third prize, two dollars.

Buckwheat.

Howard Bros., Rochester; first prize, five dollars.
E. Van Allen & Bro., Delmar; second prize, three dollars.

Medium Clover Seed.

Francis Bradt, Bethlehem Centre; third prize, two dollars.
E. Van Allen & Bro., Delmar; second prize, three dollars.

Large Clover Seed.

E. Van Allen & Bro., Delmar; first prize, five dollars.

Timothy Seed.

Francis Bradt, Bethlehem Centre; first prize, five dollars.
Howard Bros., Rochester; second prize, three dollars.

Millet.

E. Van Allen & Bro., Delmar; first prize, five dollars.
Howard Bros., Rochester; second prize, three dollars.

Flax Seed.

E. Van Allen & Bro., Delmar; first prize, five dollars.

Sorghum Seed.

T. S. Law, South Butler; first prize, five dollars.

Yellow Corn, Eight Rowed.

E. Van Allen & Bro., Delmar; first prize, five dollars.
Charles Coolidge, Phelps; second prize, three dollars.
Jay M. Seymour, Clark's Mills; third prize, one dollar.

Yellow Corn, Twelve Rowed.

E. Van Allen & Bro., Delmar; first prize, five dollars.
Charles Coolidge, Phelps; second prize, three dollars.

White Corn

Charles Coolidge, Phelps; first prize, five dollars.
A. C. Chase, Syracuse; second prize, three dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Dent Corn.

E. Van Allen & Bro., Delmar; first prize, five dollars.
Charles Coolidge, Phelps; second prize, three dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Early Sweet Corn.

O. M. Lincoln, Newark; first prize, five dollars.
H. P. Tolman, East Onondaga; second prize, three dollars.
Charles Coolidge, Phelps; third prize, one dollar.

Late Sweet Corn.

Charles N. Tuttle, Clockville; first prize, five dollars.
Francis Bradt, Bethlehem Centre; second prize, three dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Pop Corn.

O. M. Lincoln, Newark; first prize, five dollars.
M. F. Pierson, Seneca Castle; second prize, three dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Twelve Stalks with Ears for Ensilage Purposes.

O. M. Lincoln, Newark; first prize, five dollars.
Charles Coolidge, Phelps; second prize, three dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Hops.

Lyman Bush, Lafayette; first prize, ten dollars.
R. G. King, Lafayette; second prize, five dollars.
Irving C. Terry, Syracuse; third prize, two dollars.

Collection of Native Grasses, shown full length and with correct, common and scientific names, not less than ten varieties.

Daniel Batcheler, Utica; first prize, ten dollars.
Charles Coolidge, Phelps; second prize, five dollars.
C. W. Eno, Hannibal; third prize, two dollars.

VEGETABLES.

Celery.

Howard Bros., Rochester; first prize, three dollars.
Charles N. Tuttle, Clockville; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Cauliflowers.

L. B. Babcock, Fulton; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

Broccoli.

Howard Bros., Rochester; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

White Cabbage.

L. B. Babcock, Fulton; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Charles Coolidge, Phelps; third prize, one dollar.

Red Cabbage.

Charles Coolidge, Phelps; first prize, three dollars.

Lettuce.

E. Van Allen & Bro., Delmar; first prize, three dollars.
F. J. Kennedy & Co., Hornellsville; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Flat or English Turnips.

O. M. Lincoln, Newark; first prize, three dollars.
F. J. Kennedy & Co., Hornellsville; second prize, two dollars.
Charles N. Tuttle, Clockville; third prize, one dollar.

Red Turnips.

M. F. Pierson, Seneca Castle; first prize, three dollars.
Howard Bros., Rochester; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Yellow Turnips.

O. M. Lincoln, Newark; first prize, three dollars.
F. J. Kennedy & Co., Hornellsville; second prize, two dollars.

Long Red Beets.

O. M. Lincoln, Newark; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Orange Carrots.

Charles Coolidge, Phelps; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

White Carrots.

A. Donald, Horseheads; first prize, three dollars.
O. M. Lincoln, Newark; second prize, two dollars.
Charles Coolidge, Phelps; third prize, one dollar.

Parsnips.

Charles Coolidge, Phelps; first prize, three dollars.
F. J. Kennedy & Co., Hornellsville; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Salsify.

F. J. Kennedy & Co., Hornellsville; first prize, three dollars.
A. Donald, Horseheads; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Kohl-Rabi.

O. M. Lincoln, Newark; first prize, three dollars.
L. B. Babcock, Fulton; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Winter Radishes.

Francis Bradt, Bethlehem Centre; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

Summer Radishes.

E. Van Allen & Bro., Delmar; first prize, three dollars.
Howard Bros., Rochester; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Cucumbers, Long.

Charles Coolidge, Phelps; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Cucumbers, Short.

M. F. Pierson, Seneca Castle; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

White Onions.

E. Van Allen & Bro., Delmar; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
F. J. Kennedy & Co., Hornellsville; third prize, one dollar.

Red Onions.

E. Van Allen & Bro., Delmar; first prize, three dollars.
W. A. Shafer, Milford; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Yellow Onions.

W. A. Shafer, Milford; first prize, three dollars.
Charles N. Tuttle, Clockville; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Tomatoes.

M. F. Pierson, Seneca Castle; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
A. Donald, Horseheads; third prize, one dollar.

Egg Plants.

E. Van Allen & Bro., Delmar; first prize, three dollars.

Nutmeg Muskmelons.

H. P. Tolmon, East Onondaga; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

Cantaloupe Muskmelons.

Howard Bros., Rochester; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Watermelons.

Howard Bros., Rochester; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Garden Beans.

Mrs. Wm. G. Haviland, West Hoosick; first prize, three dollars.
Charles N. Tuttle, Clockville; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Lima Beans.

T. S. Law, South Butler; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

Large Peppers.

E. Van Allen & Bro., Delmar; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Small Peppers.

E. Van Allen & Bro., Delmar; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
F. J. Kennedy & Co., Hornellsville; third prize, one dollar.

Marrow Squashes.

Francis Bradt, Bethlehem Centre; first prize, three dollars.
Charles Coolidge, Phelps; second prize, two dollars.
F. J. Kennedy & Co., Hornellsville; third prize, one dollar.

Turban Squashes.

Francis Bradt, Bethlehem Centre; first prize, three dollars.
E. Van Allen & Bro., Delmar; second prize, two dollars.
Charles Coolidge, Phelps; third prize, one dollar.

Hubbard Squashes.

Charles Coolidge, Phelps; first prize, three dollars.
Charles N. Tuttle, Clockville; second prize, two dollars.
F. J. Kennedy & Co., Hornellsville; third prize, one dollar.

Pumpkins.

H. P. Tolmon, East Onondaga; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Sweet Potatoes.

M. F. Pierson, Seneca Castle; first prize, three dollars.
Charles Coolidge, Phelps; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

Potatoes, Fine Early Varieties, One-half Peck of Each.

Sidney Lewis, Syracuse; first prize, ten dollars.
A. Donald, Horseheads; second prize, five dollars.
Francis Bradt, Bethlehem Centre; third prize, three dollars.

Potatoes, Fine Late Varieties, One-half Peck of Each.

Sidney Lewis, Syracuse; first prize, ten dollars.
M. F. Pierson, Seneca Castle; second prize, five dollars.
Charles N. Tuttle, Clockville; third prize, three dollars.

Potatoes, Early, Bushel of.

Howard Bros., Rochester; first prize, five dollars.
Sidney Lewis, Syracuse; second prize, three dollars.
F. J. Kennedy & Co., Hornellsville; third prize, two dollars.

Potatoes, Late, Bushel of.

Sidney Lewis, Syracuse; first prize, five dollars.
Howard Bros., Rochester; second prize, three dollars.

Parsley.

Howard Bros., Rochester; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
E. Van Allen & Co., Delmar; third prize, one dollar.

Endive.

O. M. Lincoln, Newark; first prize, three dollars.
Howard Bros., Rochester; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Garlic.

Howard Bros., Rochester; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Seakale.

Howard Bros., Rochester; first prize, three dollars.
F. J. Kennedy & Co., Hornellsville; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Citron.

A. J. Ketcham, Weedsport; first prize, three dollars.
Francis Bradt, Bethlehem Centre; second prize, two dollars.
E. Van Allen & Bro., Delmar; third prize, one dollar.

Collection of Vegetables Grown by Exhibitor.

Howard Bros., Rochester; first prize, forty dollars.

E. Van Allen & Bro., Delmar; second prize, twenty dollars.

F. J. Kennedy & Co., Hornellsville; third prize, ten dollars.

BUTTER.

Special Prize for the Best Six Packages, not less than Ten Pounds Net each, made in the same Creamary or Private Dairy.

Wales Bros., Oswego; fifty dollars.

Package of not less than Thirty Pounds Net, made in June in Creamery.

Austinville Creamery Co., Columbia Cross Roads, Pa.; first prize, thirty dollars.

D. F. Wilbur, Oneonta; second prize, twenty dollars.

Package of not less than Thirty Pounds Net, made at any time in Creamery.

D. F. Wilbur, Oneonta; first prize, thirty dollars.

Austinville Creamery Co., Columbia Cross Roads, Pa.; second prize, twenty dollars.

Wales Bros., Oswego; third prize, ten dollars.

Package of not less than Thirty Pounds Net, made in June in Private Dairy.

R. G. King, Lafayette; first prize, thirty dollars.

B. F. Nutting, Woodville; second prize, twenty dollars.

Package of not less than Thirty Pounds Net, made at any time in Private Dairy.

Fred B. Wheeler, Rome; first prize, thirty dollars.

A. C. Biggar, Pepacton; second prize, twenty dollars.

R. G. King, Lafayette; third prize, ten dollars.

Not less than Fifteen Pounds in prints, rolls or molds.

E. F. Hawley, Pittsford; first prize, fifteen dollars.

Wales Bros., Oswego; second prize, ten dollars.

Austinville Creamery Co., Columbia Cross Roads, Pa.; third prize, five dollars.

CHEESE.

Special Prize for the Best Dozen Cheeses not less than Twenty Pounds each, from the same Factory or Dairy and suitable for Army or Other Uses.

S. C. Wheelock, North Winfield; fifty dollars.

American Cheese of the Usual Character and Shape, Factory or Other, Over One Year Old, not less than Twenty Pounds Weight.

S. B. Douglass, Reed's Corners; first prize, thirty dollars.
F. W. Church, Caughdenoy; second prize, twenty dollars.
S. C. Wheelock, North Winfield; third prize, ten dollars.

American Cheese, Less than One Year Old.

F. W. Church, Caughdenoy; first prize, thirty dollars.
F. H. Backus, Scriba; second prize, twenty dollars.
S. C. Wheelock, North Winfield; third prize, ten dollars.

American Cheese of the Usual Character, Made Especially for Home Trade.

M. C. Moetz, Mohawk; first prize, thirty dollars.
Samuel Hilton, Flat Creek; second prize, twenty dollars.
S. C. Wheelock, North Winfield; third prize, ten dollars.

Wheaten Bread.

A. Stone, Stanwix; first prize, five dollars.
E. Van Allen & Bro., Delmar; second prize, three dollars.
Mrs. S. B. Douglass, Reed's Corners; third prize, one dollar.

Rye Bread.

E. Van Allen & Bro., Delmar; first prize, five dollars.
Mrs. L. I. Kipp, Reed's Corners; second prize, three dollars.
Mrs. J. A. Henry, Reed's Corners; third prize, one dollar.

Indian Bread.

Mrs. C. L. Parker, Onondaga; first prize, five dollars.
Mrs. L. I. Kipp, Reed's Corners; second prize, three dollars.
Mrs. J. A. Henry, Reed's Corners; third prize, one dollar.

Maple Sugar.

R. G. King, Lafayette; first prize, five dollars.

Mrs. Thomas Davison, Freetown; second prize, three dollars.

E. M. Fellows, Harford Mills; third prize, one dollar.

Maple Syrup.

R. G. King, Lafayette; first prize, five dollars.

T S. Law, South Butler; second prize, three dollars.

E. M. Fellows, Harford Mills; third prize, one dollar.

Preserved Fruits.

A. Stone, Stanwix; first prize, five dollars.

H. A. Lamphere, Weedsport; second prize, three dollars.

Mrs. J. A. Henry, Reed's Corners; third prize, one dollar.

Canned Fruits.

H. A. Lamphere, Weedsport; first prize, five dollars.

Mrs. C. Bechstedt, Oswego; second prize, three dollars.

Mrs. William G. Haviland, West Hoosick; third prize, one dollar.

Pickles.

Mrs. Thomas Davison, Freetown; first prize, five dollars.

H. A. Lamphere, Weedsport; second prize, three dollars.

A. Stone, Stanwix; third prize, one dollar.

Dried Apples.

Mrs. William G. Haviland, West Hoosick; first prize, five dollars.

Mrs. L. I. Kipp, Reed's Corners; second prize, three dollars.

E. Van Allen & Bro., Delmar; third prize, one dollar.

Dried Peaches.

Mrs. S. B. Douglass, Reed's Corners; first prize, five dollars.

Mrs. J. A. Henry, Reed's Corners; second prize, three dollars.

Dried Whortleberries.

Mrs. William G. Haviland, West Hoosick; first prize, five dollars.

Mrs. J. A. Henry, Reed's Corners; second prize, three dollars.

Dried Raspberries.

E. Van Allen & Bro., Delmar; first prize, five dollars.

Mrs. William G. Haviland, West Hoosick; second prize, three dollars.

Mrs. L. I. Kipp, Reed's Corners; third prize, one dollar.

Variety Dried Fruits, One Pound or More Each.

Mrs. J. A. Henry, Reed's Corners; first prize, five dollars.

Mrs. S. B. Douglass, Reed's Corners; second prize, three dollars.

Mrs. William G. Haviland, West Hoosick; third prize, one dollar.

Jellies, not less than Six Varieties.

Mrs. William G. Haviland, West Hoosick; first prize, five dollars.

A. Stone, Stanwix; second prize, three dollars.

H. A. Lamphere, Weedsport; third prize, one dollar.

BEES, HONEY AND APIARIAN SUPPLIES.

Best Exhibit of different Races of Bees in Observatory Hives, and not less than Three Distinct Races.

I. L. Scofield, Chenango Bridge; first prize, twenty dollars.

F. H. Cyrenius, Oswego; second prize, ten dollars.

T. C. Stanton, Rochester; third prize, five dollars.

Comb Honey.

Ross & Parker, Onondaga; first prize, thirty dollars.

F. H. Cyrenius, Oswego; second prize, twenty dollars.

I. L. Scofield, Chenango Bridge; third prize, ten dollars.

Extracted Honey.

I. L. Scofield, Chenango Bridge; first prize, twenty dollars.

Ross & Parker, Onondaga; second prize, ten dollars.

Beeswax.

I. L. Scofield, Chenango Bridge; first prize, ten dollars.

Ross & Parker, Onondaga; second prize, five dollars.

F. H. Cyrenius; third prize, three dollars.

Best Instructive Exhibit, Showing Economy of the Hives, Collection of Honey Plants, Bee keeping Implements and Supplies, also Bee Literature, Etc.

I. L. Scofield, Chenango Bridge; first prize, thirty dollars.

F. H. Cyrenius, Oswego; second prize, twenty dollars.

T. C. Stanton, Rochester; third prize, ten dollars.

EXTRA ENTRIES.

Sage Cheese.

M. C. Mortz, Mohawk; twenty-five dollars.

Holley A. Petrie, Middleville; twenty dollars.

Mrs. Wm. G. Haviland, West Hoosick, ten dollars.

Imitation English Cheese.

Mrs. S. B. Douglass, Reed's Corners; ten dollars.

DOMESTIC.

ART, FANCY WORK AND DOMESTIC MANUFACTURES.

Oil Painting, Portrait from Life.

Mrs. Flora Dingman, Syracuse; first prize, five dollars.

H. C. Reymon, Syracuse; second prize, three dollars.

Oil Painting, Landscape from Nature.

Sydney Gardiner, Auburn; first prize, five dollars.

Sydney Gardiner, Auburn; second prize, three dollars.

Oil Painting, Marine from Nature.

H. C. Reymon, Syracuse; first prize, five dollars.

Mrs. Kate Lauterman, Seneca Castle; second prize, three dollars.

Oil Painting, Flowers from Nature.

H. C. Reymon, Syracuse; first prize, five dollars.

Mrs. C. M. Gibbs, Syracuse; second prize, three dollars.

Oil Painting, Fruit from Nature.

Mrs. Mary A. Burgess, Skaneateles; first prize, five dollars.

Estella D. Bugbee, De Ruyter; second prize, three dollars.

Oil Painting, Landscape from Copy.

Arthur Slack, Syracuse; first prize, three dollars.
Gertrude M. Sholes, Syracuse; second prize, two dollars.

Oil Painting, Flowers from Copy.

H. C. Reymon, Syracuse; first prize, three dollars.
Mrs. Mary L. Soule, Syracuse; second prize, two dollars.

Oil Painting, Fruit from Copy.

Mrs. Kate Lauterman, Seneca Castle; first prize, three dollars.

Oil Painting, Pair of Panels.

Sydney Gardiner, Auburn; first prize, three dollars.
Nellie E. Hammant, Syracuse; second prize, two dollars.

Oil Painting, Mirror and Frame.

Mrs. J. W. Haywood, Syracuse; first prize, three dollars.

Water Color, Portrait from Life.

Mrs. D. N. Pomeroy, Lockport; first prize, five dollars.
H. C. Reymon, Syracuse; second prize, three dollars.

Water Color, Landscape from Nature.

H. C. Reymon, Syracuse; first prize, five dollars.
Mrs. D. N. Pomeroy, Lockport; second prize, three dollars.

Water Color, Marine from Nature.

Mrs. D. N. Pomeroy, Lockport; first prize, five dollars.
H. C. Reymon, Syracuse; second prize, three dollars.

Water Color, Flowers from Nature.

Elida D. Woodward, Lockport; first prize, five dollars.
Elida D. Woodward, Lockport; second prize, three dollars.

Water Color, Fruit from Nature.

Elida D. Woodward, Lockport; first prize, five dollars.
Elida D. Woodward, Lockport; second prize, three dollars.

Water Color, Landscape from Copy.

Mrs. O. E. Pratt, Auburn; first prize, three dollars.
Elida D. Woodward, Lockport; second prize, two dollars.

Water Color, Flowers from Copy.

H. C. Reymon, Syracuse; first prize, three dollars.
Elida D. Woodward, Lockport; second prize, two dollars.

Pastel Portrait.

Mrs. D. N. Pomeroy, Lockport; first prize, three dollars.
Mrs. J. W. Haywood, Syracuse; second prize, two dollars.

Pastel Landscape.

Mrs. D. N. Pomeroy, Lockport; first prize, three dollars.
Mrs. J. W. Haywood, Syracuse; second prize, two dollars.

Pastel Pair of Panels.

Mrs. D. N. Pomeroy, Lockport; first prize, three dollars.

Crayon Portrait.

Mrs. D. N. Pomeroy, Lockport; first prize, three dollars.
Mrs. L. H. Shipman, Syracuse; second prize, two dollars.

Crayon Drawing, other than Portrait.

Mrs. E. C. Blynn, Syracuse; first prize, two dollars.
Mrs. D. N. Pomeroy, Lockport; second prize, one dollar.

Indian Ink Portrait.

Mrs. D. N. Pomeroy, Lockport; first prize, two dollars.
Mrs. L. H. Shipman, Syracuse; second prize, one dollar.

Pencil Drawing.

Mrs. E. C. Blynn, Syracuse; first prize, two dollars.
S. Irving Howard, Syracuse; second prize, one dollar.

Charcoal Drawing.

Mrs. D. N. Pomeroy, Lockport; first prize, two dollars.
Mrs. J. W. Haywood, Syracuse; second prize, one dollar.

Specimen of China Painting.

T. Marshall Fry, Jr., Syracuse; first prize, two dollars.

Mrs. J. W. Haywood, Syracuse; second prize, one dollar and fifty cents.

Collection of China Painting.

T. Marshall Fry, Jr., Syracuse; first prize, five dollars.

Mrs. J. W. Haywood, Syracuse; second prize, three dollars.

Hand-painted Vase.

T. Marshall Fry, Jr., Syracuse; first prize, two dollars.

Mrs. J. W. Haywood, Syracuse; second prize, one dollar.

Painting on Porcelain in Oil.

Mrs. Clarence Rice, Syracuse; first prize, two dollars.

Mrs. J. W. Haywood, Syracuse; second prize, one dollar.

Painted Tile.

S. N. Reed, Centre Lisle; first prize, one dollar.

Tapestry Painting.

Ella M. Gardiner, Auburn; second prize, three dollars.

Three-fold Screen, Painted in Oil.

Mrs. J. W. Haywood, Syracuse; first prize, five dollars.

Mrs. J. H. Cook, Syracuse; second prize, three dollars.

Fire Screen, Painted in Oil.

Mrs. A. H. Golding, Syracuse; first prize, three dollars.

Table Spread.

Mrs. L. H. Shipman, Syracuse; second prize, two dollars.

Table Scarf, Painted in Oil.

Mrs. Mary L. Soule, Syracuse; first prize, two dollars.

Mrs. L. H. Shipman, Syracuse; second prize, one dollar and fifty cents.

Lambrequin, Painted in Oil.

Mrs. L. H. Shipman, Syracuse; first prize, three dollars.

Mrs. C. M. Gibbs, Syracuse; second prize, two dollars.

Easel Scarf, Painted in Oil.

Mrs. M. E. Boorom, Syracuse; first prize, two dollars

Ella M. Gardiner, Auburn; second prize, one dollar and fifty cents.

Banner, Painted in Oil.

Mrs. M. E. Boorom, Syracuse; first prize, two dollars.

Mrs. L. H. Shipman, Syracuse; second prize, one dollar.

Photograph Holder, Painted in Oil.

Ella M. Gardiner, Auburn; first prize, one dollar and fifty cents.

Mrs. B. L. McElwaine, Syracuse; second prize, one dollar.

Plaque, Painted in Oil.

Ella M. Gardiner, Auburn; first prize, two dollars.

Gertrude Sholes, Syracuse; second prize, one dollar.

Fan, Painted in Oil.

Mrs. Mary L. Soule, Syracuse; first prize, two dollars.

Toilet Bottles and Cushion, Painted in Oil.

Mrs. L. H. Shipman, Syracuse; first prize, two dollars.

Mrs. Kate Lauterman, Seneca Castle; second prize, one dollar.

Cravat Case, Painted in Oil.

Ella M. Gardiner, Auburn; first prize, one dollar and fifty cents.

Ella E. Wilson, Port Byron; second prize, one dollar.

Glove Case, Painted in Oil.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar and fifty cents.

Ella M. Gardiner, Auburn; second prize, one dollar.

Handkerchief Case, Painted in Oil.

Ella M. Gardiner, Auburn; first prize; one dollar and fifty cents.

Mrs. A. L. Wheeler, Vernon; second prize, one dollar.

Sachet, Painted in Oil.

Mrs. Mary L. Soule, Syracuse; first prize, one dollar and fifty cents.

Ella M. Gardiner, Auburn; second prize, one dollar.

Thermometer, Painted in Oil.

H. C. Reymon, Syracuse; first prize, one dollar and fifty cents.

Mrs. Mary L. Soule, Syracuse; second prize, one dollar.

Opera Bag, Painted in Oil.

Mrs. Mary L. Soule, Syracuse; first prize, one dollar and fifty cents.

Ella M. Gardiner, Auburn; second prize, one dollar.

Hammered Brass.

Ella E. Wilson, Port Byron; first prize, two dollars.

Silk Rag Portiere.

Miss Geneva Brand, Syracuse; first prize, three dollars.

Miss S. Heaton, Syracuse; second prize, two dollars.

Silk Embroidered Piano Cover, Square.

Mrs. Mary L. Soule, Syracuse; first prize, three dollars.

Miss C. E. Chambers, Syracuse; second prize, two dollars.

Silk Embroidered Piano Scarf.

Mrs. C. L. Carpenter, Bath; first prize, two dollars.

Miss C. E. Chambers, Syracuse; second prize, one dollar and fifty cents.

Silk Embroidered Table Cover.

Mrs. C. L. Carpenter, Bath; first prize, three dollars.

Mrs. J. H. Cook, Syracuse; second prize, two dollars.

Crewel Embroidered Table Cover.

Mrs. C. L. Carpenter, Bath; first prize, two dollars.

Mrs. C. M. Brand, Syracuse; second prize, one dollar and fifty cents.

Silk Embroidered Table Scarf.

Mrs. J. H. Cook, Syracuse; first prize, two dollars.

Mrs. Edwin Dewey, Clay; second prize, one dollar.

Ribbon Work, Table Scarf.

Mrs. Babbett Malone, Syracuse; second prize, one dollar.

Silk Embroidered Lambrequin.

Mrs. A. L. Wheeler, Vernon; first prize, three dollars.

Mrs. L. L. Duell, Syracuse; second prize, two dollars.

Embroidered Plush Lambrequin.

Mrs. Babbett Malone, Syracuse; first prize, three dollars.

Mrs. O. E. Pratt, Auburn; second prize, two dollars.

Silk Embroidered Stand Cover.

Bertha Kolbe, Syracuse; first prize, two dollars.

Mrs. A. L. Wheeler, Vernon; second prize, one dollar and fifty cents.

Silk Embroidered Bureau Cover.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar and fifty cents.

Mrs. C. L. Carpenter, Bath; second prize, one dollar.

Silk Embroidered Easel Scarf.

Ella M. Gardiner, Auburn; first prize, two dollars.

Mrs. L. L. Duell, Syracuse; second prize, one dollar and fifty cents

Silk Embroidered Dress.

Bertha Kolbe, Syracuse; first prize, three dollars.

Ella M. Gardiner, Auburn; second prize, two dollars.

Lamp Shade in Silk and Lace.

Mrs. F. M. Pelton, Syracuse; first prize, two dollars and fifty cents.

Miss S. Heaton, Syracuse; second prize, one dollar and seventy-five cents.

Silk Embroidered Tea Cloth.

Bertha Kolbe, Syracuse; first prize, two dollars and fifty cents.

Mrs. E. J. Kester, Elbridge; second prize, one dollar and fifty cents.

Silk Embroidered Center Piece.

L. Grace Wright, Auburn; first prize, two dollars.

L. Grace Wright, Auburn; second prize, one dollar and fifty cents.

Silk Embroidered Set of Doilies.

Mrs. A. L. Wheeler, Vernon; first prize, two dollars.

L. Grace Wright, Auburn; second prize, one dollar and fifty cents.

Silk Embroidered Sofa Pillow.

Mrs. J. H. Cook, Syracuse; first prize, two dollars and fifty cents.

Mrs. O. E. Pratt, Auburn; second prize, one dollar and fifty cents.

Silk Embroidered Sachet.

Ella M. Gardiner, Auburn; first prize, one dollar.

Mrs. C. L. Carpenter, Bath; second prize, fifty cents.

Silk Embroidered Cravat Case.

Ella M. Gardiner, Auburn; first prize, one dollar and fifty cents.

Silk Embroidered Handkerchief Case.

Ella M. Gardiner, Auburn; second prize, one dollar.

Silk Embroidered Glove Case.

Ella M. Gardiner, Auburn; first prize, one dollar and fifty cents.

Silk Embroidered Photograph Case.

Mrs. O. E. Pratt, Auburn; first prize, one dollar and fifty cents.

Mrs. Mary L. Soule, Syracuse; second prize, one dollar.

Silk Embroidered Photograph Frame.

L. Grace Wright, Auburn; first prize, one dollar and fifty cents.

Mrs. J. H. Cook, Syracuse; second prize, one dollar.

Silk Embroidered Slippers.

Mrs. C. M. Brant, Syracuse; first prize, one dollar.

Mrs. Mary L. Soule, Syracuse; second prize, fifty cents.

Chenille Embroidery.

Ella M. Gardiner, Auburn; first prize, one dollar and fifty cents.

Mrs. O. E. Pratt, Auburn; second prize, one dollar.

Tinsel Embroidery.

Mrs. L. L. Duell, Syracuse; first prize, one dollar and fifty cents.
Mrs. B. L. McElwaine, Syracuse; second prize, one dollar.

Rococo Embroidery.

Miss C. E. Chambers, Syracuse; second prize, one dollar.

Fancy Collar Box.

Ella E. Wilson, Port Byron; first prize, one dollar.
Mrs. A. L. Wheeler, Vernon; second prize, fifty cents.

Fancy Handkerchief Box.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar.
H. C. Reymon, Syracuse; second prize, fifty cents.

Fancy Glove Box.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar.

Fancy Watch Case.

Mrs. A. L. Wheeler, Vernon; first prize, seventy-five cents.

Fancy Key Board.

Ella M. Gardiner, Auburn; first prize, seventy-five cents.
Ella M. Gardiner, Auburn; second prize, fifty cents.

Fancy Thermometer.

Ella M. Gardiner, Auburn; first prize, seventy-five cents.
Mrs. O. E. Pratt, Auburn; second prize, fifty cents.

Silk Embroidered Opera Bag.

Ella M. Gardiner, Auburn; first prize, two dollars.
Ella M. Gardiner, Auburn; second prize, one dollar.

Silk Embroidered Parlor Bag.

Ella M. Gardiner, Auburn; first prize, two dollars.
Mrs. J. H. Cook, Syracuse; second prize, one dollar.

Silk Embroidered Infant's Flannel Blanket.

Miss S. Heaton, Syracuse; first prize, one dollar and fifty cents.
Mrs. B. L. McElwaine; second prize, one dollar.

Silk Embroidered Flannel Skirt.

Miss S. Heaton, Syracuse; first prize, one dollar and fifty cents.
Mrs. C. L. Carpenter, Bath; second prize, one dollar.

Cotton or Linen Embroidered Side-board Cover.

Mrs. C. L. Carpenter, Bath; first prize, two dollars.
Mrs. A. L. Wheeler, Vernon; second prize, one dollar.

Cotton or Linen Embroidered Set of Napkins.

Bertha Kolbe, Syracuse; first prize, two dollars.
Mrs. Thos. Davison, Freetown; second prize, one dollar.

Cotton or Linen Embroidered Towels.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar.
Mrs. L. H. Shipman, Syracuse; second prize, fifty cents.

Cotton or Linen Embroidered Tray Cloth.

Mrs. J. H. Cook, Syracuse; first prize, one dollar and fifty cents.
Mrs. A. L. Wheeler, Vernon; second prize, one dollar.

Cotton or Linen Embroidered Set of Doilies.

Mrs. J. H. Cook, Syracuse; first prize, one dollar and fifty cents.

Cotton or Linen Embroidered Tea Cloth.

Miss S. Heaton, Syracuse; first prize, two dollars.
Mrs. J. H. Cook, Syracuse; second prize, one dollar and fifty cents.

Cotton or Linen Embroidered Pillow Shams.

Mrs. O. E. Pratt, Auburn; first prize, one dollar and fifty cents.
Miss C. E. Chambers, Syracuse; second prize, one dollar.

Cotton or Linen Embroidered Skirt.

Ella E. Wilson, Port Byron; first prize, one dollar and fifty cents.

Cotton or Linen Embroidered Handkerchief.

Bertha Kolbe, Syracuse; first prize, one dollar.

Mrs. J. H. Cook, Syracuse; second prize, fifty cents.

Cotton or Linen Embroidered Toilet Cushion.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar.

Mrs. C. M. Brand, Syracuse; second prize, fifty cents.

Cotton or Linen Embroidered Splasher.

Mrs. C. L. Carpenter, Bath; first prize, one dollar.

Mrs. Mary L. Soule, Syracuse; second prize, fifty cents.

Darned-net Pillow Shams.

Miss Geneva Brand, Syracuse; first prize, one dollar and fifty cents.

Crochet Pillow Shams.

Mrs. Edwin Dewey, Clay; first prize, two dollars.

Mrs. Mary L. Soule, Syracuse; second prize, one dollar.

Mexican Drawn Work.

Mrs. A. L. Wheeler, Vernon; first prize, two dollars.

Mrs. E. J. Kester, Elbridge; second prize, one dollar.

Tray Cloth in Mexican Drawn Work.

Mrs. J. H. Cook, Syracuse; first prize, two dollars.

Mrs. W. H. Motsiff, Syracuse; second prize, one dollar.

Doilies in Mexican Drawn Work.

Mrs. A. L. Wheeler, Vernon; first prize, two dollars.

Mrs. Nelson G. Anderson, Syracuse; second prize, one dollar.

Crochet Cotton Tidy.

Mrs. O. E. Pratt, Auburn; first prize, seventy-five cents.

Miss S. Heaton, Syracuse; second prize, fifty cents.

Knit Cotton Tidy.

H. A. Lamphere, Weedsport; first prize, seventy-five cents.

A. Stone, Stanwix; second prize, fifty cents.

Crochet Thread Tidy.

Mrs. O. E. Pratt, Auburn; first prize, one dollar.

Mrs. A. H. Golding, Syracuse; second prize, fifty cents.

Knit Thread Tidy.

Mrs. Henry W. Thompson, Syracuse; first prize, one dollar.

Lace Tidy.

Mrs. J. H. Cook, Syracuse; first prize, one dollar.

Mrs. Jennie McNeil, Syracuse; second prize, fifty cents.

Lace Handkerchief.

Mrs. J. H. Cook, Syracuse; first prize, two dollars.

Mrs. C. M. Brand, Syracuse; second prize, one dollar.

Crochet Irish Point Lace Collar.

Mrs. L. H. Shipman, Syracuse; first prize, one dollar and fifty cents.

Mrs. Wm. G. Haviland, Hoosick Falls; second prize, one dollar.

Fancy Apron.

Bertha Kolbe, Syracuse; first prize, one dollar.

Mrs. J. H. Cook, Syracuse; second prize, fifty cents.

Fancy Sewing Apron.

Mrs. J. H. Cook, Syracuse; first prize, one dollar.

Miss N. E. Hammant, Syracuse; second prize, fifty cents.

Honiton Point Lace.

Mrs. J. H. Cook, Syracuse; first prize, two dollars.

Mrs. C. M. Brand, Syracuse; second prize, one dollar.

Cotton or Linen Embroidered Center Piece.

Mrs. A. L. Wheeler, Vernon; first prize, one dollar and fifty cents.

Mrs. C. L. Carpenter, Bath; second prize, one dollar.

Drawn Work Center Piece.

Mrs. A. L. Wheeler, Vernon; first prize, two dollars.

Mrs. Nelson G. Anderson, Syracuse; second prize, one dollar.

Outline Embroidery.

Miss S. Heaton, Syracuse; first prize, one dollar.

Mrs. C. L. White, Syracuse; second prize, fifty cents.

Stocking Bag.

Mrs. C. N. Brand, Syracuse; first prize, seventy-five cents.

Miss S. Heaton, Syracuse; second prize, fifty cents.

Silk Embroidered Chair.

Miss C. E. Chambers, Syracuse; first prize, four dollars.

Silk Embroidered Ottoman.

Mrs. C. L. Carpenter, Bath; second prize, two dollars.

Silk Embroidered Foot Rest.

Mrs. O. E. Pratt, Auburn; first prize, two dollars.

Mrs. O. E. Pratt, Auburn; second prize, one dollar and fifty cents

Silk Embroidered Slipper Case.

Mrs. C. M. Brand, Syracuse; first prize, two dollars.

Worsted Embroidered Ottoman.

Mrs. C. M. Brand, Syracuse; first prize, two dollars.

Worsted Embroidered Foot Rest.

Mrs. O. E. Pratt, Auburn; first prize, one dollar and fifty cents.

Worsted Embroidered Slipper Case.

Mrs. Babbett Malone, Syracuse; second prize, one dollar.

Crochet Carriage Afghan.

Ella E. Wilson, Port Byron; first prize, three dollars.

H. C. Reymon, Syracuse; second prize, two dollars.

Knit Carriage Afghan.

Mrs. Mary Gould, Syracuse; first prize, three dollars.

Cloth Embroidered Afghan.

Mrs. C. M. Brand, Syracuse; first prize, three dollars.
Miss S. Heaton, Syracuse; second prize, two dollars.

Child's Carriage Afghan.

Mrs. C. L. Carpenter, Bath; first prize, two dollars.
Mrs. L. H. Shipman, Syracuse; second prize, one dollar.

Slumber Robe.

Mrs. C. M. Brand, Syracuse; first prize, two dollars and fifty cents.
H. C. Reymon, Syracuse; second prize, two dollars.

Rag Carpet.

Mrs. Holley A. Petrie, Middleville; first prize, three dollars.
Mrs. Jennie McNeil, Syracuse; second prize, two dollars.

Home-made Persian Rug in Yarn.

Mrs. Jennie McNeil, Syracuse; first prize, three dollars.

Home-made Persian Rug in Rags.

Mrs. S. Rosamond Hill, Chittenango; first prize, two dollars.
Mrs. S. C. Stearns, Syracuse; second prize, one dollar and fifty cents.

Knitted Rug.

Edith Nye, Syracuse; first prize, two dollars.

Home-made Woven Rug.

Mrs. S. B. Douglass, Reed's Corners; first prize, one dollar and fifty cents.
Mrs. J. A. Henry, Reed's Corners; second prize, one dollar.

Any Other Kind of Rug.

Mrs. J. A. Henry, Reed's Corners; first prize, one dollar and fifty cents.
Mrs. Babbett Malone, Syracuse; second prize, one dollar.

Silk Pieced Quilt.

Mrs. Jennie McNeil, Syracuse; first prize, two dollars.

Mrs. S. C. Stearns, Syracuse; second prize, one dollar and fifty cents.

Silk Crazy Quilt.

Miss Nellie E. Hammant, Syracuse; first prize, two dollars.

Mrs. M. E. Haynes, Syracuse; second prize, one dollar and fifty cents.

Pieced Cotton Bed Quilt.

Mrs. L. Myles, Rochester; first prize, one dollar and fifty cents.

Mrs. Thos. Kelly, Memphis; second prize, one dollar.

Knit Bed Spread.

Mrs. W. D. Foster, Syracuse; first prize, two dollars.

Mrs. Geo. E. Gaige, Nelson; second prize, one dollar and fifty cents.

Crochet Bed Spread.

Mrs. Geo. W. Young, Onondaga Valley; first prize, two dollars.

Mrs. Edwin Dewey, Clay; second prize, one dollar and fifty cents.

Any Other Bed Spread.

Mrs. Edwin Dewey, Clay; first prize, two dollars.

Mrs. O. E. Pratt, Auburn; second prize, one dollar and fifty cents.

Crochet Shawl.

Mrs. A. H. Golding, Syracuse; first prize, one dollar and fifty cents.

Mrs. O. E. Pratt, Auburn; second prize, one dollar.

Crochet Sacque.

Mrs. O. E. Pratt, Auburn; first prize, one dollar and fifty cents.

Mrs. C. M. Brand, Syracuse; second prize, one dollar.

Crochet Cape.

Mrs. O. E. Pratt, Auburn; first prize, one dollar.

Louisa P. Tennant, Stanwix; second prize, seventy-five cents.

Crochet Skirt.

Mrs. B. L. McElwaine, Syracuse; first prize, one dollar and fifty cents.

Mrs. A. H. Golding, Syracuse; second prize, one dollar.

Knit Sacque.

Miss S. Heaton, Syracuse; second prize, one dollar.

Knit Cape.

Mrs. C. M. Brand, Syracuse; first prize, one dollar.

Mrs. O. E. Pratt, Auburn; second prize, seventy-five cents.

Knit Skirt.

Miss S. Heaton, Syracuse; second prize, one dollar.

Knit Hood.

Mrs. O. E. Pratt, Auburn; first prize, one dollar.

Knit Woolen Lace.

Mrs. S. A. Henry, Syracuse; first prize, seventy-five cents.

Mrs. Henry W. Thompson, Syracuse; second prize, fifty cents.

Knit Linen Lace.

Mrs. O. E. Pratt, Auburn; first prize, one dollar.

Mrs. J. H. Cook, Syracuse; second prize, seventy-five cents.

Crochet Woolen Lace.

Miss S. Heaton, Syracuse; first prize, seventy-five cents.

Mrs. William G. Haviland, West Hoosick; second prize, fifty cents.

Crochet Linen Lace.

Mrs. J. H. Cook, Syracuse; first prize, one dollar.

Mrs. O. E. Pratt, Auburn; second prize, seventy-five cents.

Knit Woolen Stockings.

Louisa P. Tennant, Stanwix; fifty cents.

Knit Cotton Stockings.

Louisa P. Tennant, Stanwix; fifty cents.

Knit Silk Mittens.

Ella E. Wilson, Port Byron; first prize, seventy-five cents.
Mrs. S. A. Henry, Syracuse; second prize, fifty cents.

Knit Woolen Mittens.

Mrs. C. M. Brand, Syracuse; fifty cents.

Knit Fringe Mittens.

Louisa P. Tennant, Stanwix; first prize, seventy-five cents.
Mrs. Edwin Dewey, Clay; second prize, fifty cents.

Knit Slippers.

Mrs. O. E. Pratt, Auburn; fifty cents.

Crochet Slippers.

Mrs. C. M. Brand, Syracuse; fifty cents.

Crochet Toilet Set.

Mrs. S. Evans, Syracuse; second prize, fifty cents.

Crochet Table Mats.

Mrs. C. M. Brand, Syracuse; first prize, seventy-five cents.
Mrs. C. L. Carpenter, Bath; second prize, fifty cents.

Ladies' Knit Vests.

Mrs. Joseph Herriman, Long Island City; first prize, one dollar.

Ladies' Knit Purse.

Mary Coolidge, Phelps; first prize, seventy-five cents.
Mrs. S. Evans, Syracuse; second prize, fifty cents.

Woolen Yarn.

H. A. Lamphere, Weedsport; first prize, seventy-five cents.
Mrs. Wm. G. Haviland, West Hoosick; second prize, fifty cents.

Plain Needle Work.

H. A. Lamphere, Weedsport; first prize, one dollar.
Mrs. C. L. Carpenter, Bath; second prize, fifty cents.

Darning.

Bertha Kolbe, Syracuse; first prize, seventy-five cents.
Mrs. Wm. G. Haviland, West Hoosick; second prize, fifty cents.

Mending.

Mrs. J. H. Cook, Syracuse; second prize, fifty cents.

Hair Work, other than Flowers.

Mrs. Jennie McNeil, Syracuse; first prize, five dollars.
Miss Anna E. Lyons, Syracuse; second prize, three dollars.

Penmanship.

E. G. Greenleaf, Syracuse; first prize, two dollars.

Pen Pictures.

Mrs. Kate Lauterman, Seneca Castle; first prize, one dollar.
E. G. Greenleaf, Syracuse; second prize, seventy-five cents.

EXTRA ENTRIES.

Hand-painted Chatelaine and Pin Cushion.

Mrs. A. H. Golding, Syracuse; certificate of merit.

Painting on Chamois in Oil.

Ella M. Gardiner, Auburn; certificate of merit.

Collection of Shells and Palette, Painted in Oil.

Sydney Gartiner, Auburn; certificate of merit.

Paintings, Game and Still Life.

Mrs. Kate Lauterman, Seneca Castle; certificate of merit.

Easel Scarf and Drawn Work.

Mary Coolidge, Phelps; certificate of merit.

Oil Paintings, Head of Cows, Brook Trout, Portrait of Boy, Copy.

Estella D. Bugbee, De Ruyter; certificate of merit.

Silk Embroidered and Drawn Work, Side-board Cloth, Set Embroidered Sheets and Pillow Cases, Traveling Sewing Bag and Pin Cushion.

Bertha Kolbe, Syracuse; certificate of merit.

Decorated Fans in Tinsel.

Mrs. Henry W. Thompson, Syracuse; certificate of merit.

Oil Painting, Horses from Copy.

Mrs. E. C. Blynn, Syracuse; certificate of merit.

FLOWERS.

Professional List.

Cut Flowers.— General Collection of Cut Flowers.

P. R. Quinlan, Syracuse; first prize, forty dollars.
David Campbell, Syracuse; second prize, twenty-five dollars.
Joseph Hullar, Syracuse; third prize, fifteen dollars.

Dahlias.— Collection of Dahlias.

Woodward & Jaques, Wright's Corners; first prize, ten dollars.

Twelve dissimilar blossoms with names.

Woodward & Jaques, Wright's Corners, first prize, five dollars.

Roses.— Collection of Roses.

P. R. Quinlan & Co., Syracuse; first prize, ten dollars.

Twenty-four distinct varieties, three of each, with names.

P. R. Quinlan & Co., Syracuse; first prize, five dollars.

Twelve named varieties, three to five of each.

P. R. Quinlan & Co., Syracuse; first prize, three dollars.

Phloxes.—Collection of Annual Phloxes.

Mrs. C. Bechstedt, Oswego; first prize, ten dollars.
P. R. Quinlan & Co., Syracuse; second prize, five dollars.

Twelve named varieties, perennial.

P. R. Quinlan & Co., Syracuse; first prize, five dollars.

Verbenas.— Collection of Verbenas.

P. R. Quinlan & Co., Syracuse; first prize, ten dollars.

Twelve named varieties.

P. R. Quinlan & Co., Syracuse; first prize, five dollars.

American Seedling, not before Exhibited.

P. R. Quinlan & Co., Syracuse; first prize, two dollars.

Asters.— Collection of Asters.

Mrs. C. Bechstedt, Oswego; first prize, ten dollars.
David Campbell, Syracuse; second prize, five dollars.

Celosias.— Collection of Celosias.

David Campbell, Syracuse; first prize, three dollars.
P. R. Quinlan & Co., Syracuse; second prize, two dollars.

Lilies.— Collection of Lilies.

P. R. Quinlan & Co., Syracuse; first prize, five dollars.
Mrs. C. Bechstedt, Oswego; second prize, three dollars.

Pansies.— Collection of Pansies.

Mrs. C. Bechstedt, Oswego; first prize, five dollars.
P. R. Quinlan & Co., Syracuse; second prize, three dollars.

Ten-weeks Stock.— Collection of Ten-weeks Stock.

P. R. Quinlan & Co., Syracuse; first prize, three dollars.

Gladiolas.— Collection of Gladiolas.

P. R. Quinlan & Co., Syracuse; first prize, fifteen dollars.

Twelve varieties.

P. R. Quinlan & Co., Syracuse; first prize, three dollars.

Geraniums.— Largest and best display of named varieties.

P. R. Quinlan & Co., Syracuse; first prize, ten dollars.

AMATEUR LIST.

Cut Flowers.— General Collection of Cut Flowers.

Mrs. Thos. Davison, Freetown; first prize, ten dollars.
Louisa P. Tennant, Stanwix; second prize, five dollars.
A. Stone, Stanwix; third prize, three dollars.

Dahlias.— Collection of Dahlies, named.

Mrs. Wm. G. Haviland, West Hoosick; first prize, ten dollars.
Louisa P. Tennant, Stanwix; second prize, five dollars.
E. Van Allen, Delmar; third prize, three dollars.

Twelve dissimilar blooms, named.

O. S. Jaques, Wright's Corners; first prize, three dollars.

Six dissimilar blooms, named.

O. S. Jaques, Wright's Corners; first prize, two dollars.
Mrs. Wm. G. Haviland, West Hoosick; second prize, one dollar.

Roses.— Collection of Roses.

Joseph Hullar, Syracuse; first prize, six dollars.

Verbenas.— Collection of Verbenas, named.

E. Van Allen, Delmar; first prize, five dollars.
A. Stone, Stanwix; second prize, three dollars.

Verbenas.— Twelve distinct varieties, named.

A. Stone, Stanwix; first prize, three dollars.

Phloxes.— Collection of Annual Phloxes.

E. Van Allen, Delmar; first prize, five dollars.
Mrs. Thomas Davison, Freetown; second prize, three dollars.

Perennial, six varieties, named.

E. Van Allen, Delmar; first prize two dollars.
Louisa P. Tennant, Stanwix; second prize, one dollar.

Asters.— Collection of Asters.

Mrs. Thos. Davison, Freetown; first prize, five dollars.
E. Van Allen, Delmar; second prize, three dollars.
Mrs. Wm. G. Haviland, West Hoosick; third prize, two dollars.

Pansies.— Collection of Pansies.

Howard Bros., Rochester; first prize, three dollars.

E. Van Allen, Delmar; second prize, two dollars.

Ten-weeks Stock.— Collection of Ten-weeks Stock.

A. Stone, Stanwix; first prize, three dollars.

Joseph Hullar, Syracuse; second prize, two dollars.

Gladiolas.— Collection of Gladiolas.

E. Van Allen, Delmar; first prize, ten dollars.

Mrs. Thos. Davison, Freetown; second prize, five dollars.

Louisa P. Tennant, Stanwix; third prize, three dollars.

Gladiolas.— Twelve varieties.

Mrs. Wm. G. Haviland, West Hoosick; first prize, five dollars.

Louisa P. Tennant, Stanwix; second prize, three dollars.

Everlasting Flowers.

Mrs. Thos. Davison, Freetown; first prize, three dollars.

Mrs. Wm. G. Haviland, West Hoosick; second prize, two dollars.

PLANTS IN POTS, OPEN TO ALL COMPETITORS.

General collection of greenhouse and stove plants; extent, fineness of varieties and condition of plants all to be considered.

P. R. Quinlan & Co., Syracuse; first prize, seventy-five dollars.

David Campbell, Syracuse; second prize, fifty dollars.

George Ham, Syracuse; third prize, twenty-five dollars.

Plants in Pots, Group of Palms.

P. R. Quinlan & Co., Syracuse; first prize, twenty-five dollars.

George Ham, Syracuse; second prize, fifteen dollars.

Group of Ferns.

J. R. Quinlan & Co., Syracuse; first prize, twenty-five dollars.

David Campbell, Syracuse; second prize, fifteen dollars.

Fuchsias.— Collection of Fuchsias.

Joseph Hullar, Syracuse; first prize, ten dollars.
P. R. Quinlan & Co., Syracuse; second prize, five dollars.

Six Fuchsias, distinct varieties.

Joseph Hullar, Syracuse; first prize, three dollars.
P. R. Quinlan & Co., Syracuse; second prize, two dollars.

Zonal Pelargoniums. - Best Collection in Pots.

P. R. Quinlan & Co., Syracuse; first prize, ten dollars.
George Ham, Syracuse; second prize, five dollars.

Six Zonal Pelargoniums, single or double varieties.

P. R. Quinlan & Co., Syracuse; first prize, five dollars.
George Ham, Syracuse; second prize, three dollars.

One Zonal Pelargonium, single.

P. R. Quinlan & Co., Syracuse; first prize, two dollars.

Begonias.— Tuberous Rooted, largest and best collection.

P. R. Quinlan & Co., Syracuse; first prize, ten dollars.
George Ham, Syracuse; second prize, five dollars.

BOUQUETS, FLORAL DESIGNS, ETC.

Best Display for Funeral Purposes.

P. R. Quinlan & Co., Syracuse; first prize, forty dollars.
Mrs. Thos. Davison, Freetown; second prize, twenty-five dollars.
Mrs. Wm. G. Haviland, West Hoosick; third prize, fifteen dollars.

Best Display, other than above.

P. R. Quinlan & Co., Syracuse; first prize, forty dollars.
Mrs. Thos. Davison, Freetown; second prize, twenty-five dollars.
Mrs. Wm. G. Haviland, West Hoosick; third prize, fifteen dollars.

Best Pair Bridal Bouquets.

P. R. Quinlan & Co., Syracuse; first prize, ten dollars.
Mrs. Thos. Davison, Freetown; second prize, five dollars.

FRUIT.

PROFESSIONAL LIST.

Largest and best collection of all fruits, especially designed for family purposes, collected and exhibited by any society or organization which has been in existence at least one year.

Central New York Horticultural Society, Syracuse; first prize, $200.

Western New York Horticultural Society, Rochester; second prize, $100.

Largest and best collection of all fruits especially designed for market purposes, collected and exhibited by any society or organization which has been in existence at least one year.

Central New York Horticultural Society, Syracuse; first prize, $200.

Western New York Horticultural Society, Rochester; second prize, $100.

APPLES.

Collection of not less than forty varieties, five specimens of each.

C. M. Baker, Selkirk; first prize, twenty dollars.
L. B. Babcock, Fulton; second prize, ten dollars.
Sidney Lewis, Syracuse; third prize, five dollars.

Collection of twenty varieties, five specimens of each.

C. M. Baker, Selkirk; first prize, ten dollars.
Wagener & Co., Pultney; second prize, five dollars.
L. B. Babcock, Fulton; third prize, three dollars.

Collection of ten varieties, five specimens of each.

C. M. Baker, Selkirk; first prize, five dollars.
L. B. Babcock, Fulton; second prize, three dollars.
Wagener & Co., Pultney; third prize, two dollars.

PEARS.

Collection of not less than twenty-five varieties, five specimens of each.

Ellwanger & Barry, Rochester; first prize, twenty dollars.

C. M. Baker, Selkirk; second prize, ten dollars.

Collection of twenty varieties, five specimens of each.

Ellwanger & Barry, Rochester; first prize, ten dollars.

C. M. Baker, Selkirk; second prize, five dollars.

Wagener & Co., Pultney; third prize, three dollars.

Collection of ten varieties, five specimens of each.

Ellwanger & Barry, Rochester; first prize, five dollars.

C. M. Baker, Selkirk; second prize, three dollars.

Wagener & Co., Pultney; third prize, two dollars.

PEACHES.

Collection of not less than ten varieties, five specimens of each.

Ellwanger & Barry, Rochester; first prize, fifteen dollars.

J. M. Mersereau, Cayuga; second prize, ten dollars.

Wagener & Co., Pultney; third prize, five dollars.

Collection of five varieties, five specimens of each.

J. M. Mersereau, Cayuga; first prize, eight dollars.

Wagener & Co., Pultney; second prize, five dollars.

PLUMS.

Collection of not less than ten varieties, ten specimens of each.

Ellwanger & Barry, Rochester; first prize, ten dollars.

C. M. Baker, Selkirk; second prize, five dollars.

Collection of five varieties, ten specimens of each.

Ellwanger & Barry, Rochester; first prize, eight dollars.

C. M. Baker, Selkirk; second prize, five dollars.

Wagener & Co., Pultney; third prize, three dollars.

QUINCES.

Orange, ten specimens.

C. M. Baker, Selkirk; first prize, five dollars.
Wagener & Co., Pultney; second prize, three dollars.

Rheas, ten specimens.

Ellwanger & Barry, Rochester; first prize, five dollars.
C. M. Baker, Selkirk; second prize, three dollars.

NATIVE GRAPES (GROWN IN OPEN AIR).

Collection of not less than ten varieties, three bunches of each.

Ellwanger & Barry, Rochester; first prize, fifteen dollars.
Wagener & Co., Pultney; second prize, ten dollars.

Collection of five varieties, five bunches of each.

Ellwanger & Barry, Rochester; first prize, ten dollars.
Wagener & Co., Pultney; second prize, five dollars.

AMATEUR LIST — APPLES.

Collection of twenty varieties, five specimens of each.

Joseph Hullar, Syracuse; first prize, ten dollars.
L. B. Babcock, Fulton; second prize, five dollars.
M. F. Pierson, Seneca Castle; third prize, three dollars.

Collection of ten varieties, five specimens of each.

M. F. Pierson, Seneca Castle; first prize, six dollars.
Joseph Hullar, Syracuse; second prize, four dollars.
Frank H. Baker, East Onondaga; third prize, three dollars.

Collection of five varieties, five specimens of each.

Frank H. Barker, East Onondaga; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

PEARS.

Collection of ten varieties, five specimens of each.

M. F. Pierson, Seneca Castle; first prize, ten dollars.
Joseph Hullar, Syracuse; second prize, five dollars.
O. M. Lincoln, Newark; third prize, three dollars.

Collection of five varieties, five specimens of each.

Joseph Hullar, Syracuse; first prize, five dollars.
M. F. Pierson, Seneca Castle; second prize, three dollars.
John T. Roberts, Syracuse; third prize, two dollars.

PEACHES.

Collection of five varieties, five specimens of each.

Howard Bros., Rochester; first prize, six dollars.
M. F. Pierson, Seneca Castle; second prize, three dollars.
M. F. Pierson, Seneca Castle; third prize, two dollars.

Yellow Flesh, ten specimens.

Howard Bros., Rochester; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

White Flesh, ten specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

PLUMS.

Collection of five varieties, ten specimens of each.

Howard Bros., Rochester; first prize, five dollars.
O. M. Lincoln, Newark; second prize, three dollars.
M. F. Pierson, Seneca Castle; third prize, two dollars.

Collection of three varieties, ten specimens of each.

M. F. Pierson, Seneca Castle; first prize, three dollars.
O. M. Lincoln, Newark; second prize, two dollars.
Howard Bros., Rochester; third prize, one dollar.

QUINCES.

Ten specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.
Howard Bros., Rochester; second prize, two dollars.
Sidney Lewis, Syracuse; third prize, one dollar.

NATIVE GRAPES (GROWN IN THE OPEN AIR).

Collection of ten varieties, three bunches of each.

P. Worden, Fayetteville; first prize, twelve dollars.
M. F. Pierson, Seneca Castle; second prize, five dollars.

Collection of five varieties, three bunches of each.

John T. Roberts, Syracuse; first prize, eight dollars.
P. Worden, Fayetteville; second prize, four dollars.
M. F. Pierson, Seneca Castle; third prize, two dollars.

SINGLE DISHES OPEN TO ALL.— APPLES.

Chenango Strawberry, twelve specimens.

W. A. Shafer, Milford; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Duchess of Oldenberg, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Fameuse, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Stump, twelve specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.

Gravenstein, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Joseph Hullar, Syracuse; third prize, one dollar.

King of Tompkins County, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
George Stuckey, Marcellus; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Maiden Blush, twelve specimens.

Joseph Hullar, Syracuse; first prize, two dollars.
L. Lent, Lent; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Baldwins, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Francis Bradt, Bethlehem Centre; third prize, one dollar.

Esopus Spitzenberg, twelve specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.
C. M. Baker, Selkirk; second prize, two dollars.
Sidney Lewis, Syracuse; third prize, one dollar.

Twenty Ounce, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Fall Pippin, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.
O. M. Lincoln, Newark; third prize, one dollar.

Wealthy, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

McIntosh, twelve specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.

Sutton Beauty, twelve specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.
C. M. Baker, Selkirk; second prize, two dollars.

Hubbardston None Such, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Sidney Lewis, Syracuse; third prize, one dollar.

Ben Davis, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Yellow Bell Flower, twelve specimens.

Joseph Hullar, Syracuse; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Northern Spy, twelve specimens.

George Stuckey, Marcellus; first prize, three dollars.
Joseph Hullar, Syracuse; second prize, two dollars.
C. M. Baker, Selkirk; third prize, one dollar.

Red Canada, twelve specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.

Rhode Island Greening, twelve specimens.

Wagener & Co., Pultney; first prize, three dollars.
Sidney Lewis, Syracuse; second prize, two dollars.
C. M. Baker, Selkirk; third prize, one dollar.

Golden Russet, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Roxbury Russet, twelve specimens.

Wagener & Co., Pultney; first prize, three dollars.
O. M. Lincoln, Newark; second prize, two dollars.
C. M. Baker, Selkirk; third prize, one dollar.

PEARS.

Bartlett, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
Joseph Hullar, Syracuse; third prize, one dollar.

Seckel, twelve specimens.

C. M. Baker, Selkirk; first prize, three dollars.
Joseph Hullar, Syracuse; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Flemish Beauty, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
Ross & Parker, Onondaga; second prize, two dollars.
Joseph Hullar, Syracuse; third prize, one dollar.

Duchesse d'Angouleme, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
Joseph Hullar, Syracuse; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Beurré d'Anjou, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
C. N. Baker, Selkirk; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Doyerme Boussock, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Beurré Bosc, twelve specimens.

C. N. Baker, Selkirk; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Beurré Clairgeau, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
C. N. Baker, Selkirk; second prize, two dollars.

Lawrence, twelve specimens.

C. N. Baker, Selkirk; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Sheldon, twelve specimens.

C. N. Baker, Selkirk; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Winter Nelis, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Josephine de Malines, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Howell, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.

Louise Bonney d'Jersey, twelve specimens.

Ellwanger & Barry, Rochester; first prize, three dollars.
C. N. Baker, Selkirk; second prize, two dollars.
Ross & Parker, Onondaga; third prize, one dollar.

Kieffer, twelve specimens.

M. F. Pierson, Seneca Castle; first prize, three dollars.
C. N. Baker, Selkirk; second prize, two dollars.

GRAPES.

Barry, six bunches.

Ellwanger & Barry, Rochester; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Brighton, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Concord, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.

Delaware, six bunches.

Wagener & Co., Pultney; first prize, three dollars.
P. Worden, Fayetteville; second prize, two dollars.
Ross & Parker, Onondaga; third prize, one dollar.

Duchesse, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.
Ellwanger & Barry, Rochester; third prize, one dollar.

Niagara, six bunches.

Ross & Parker, Onondaga; first prize, three dollars.
P. Worden, Fayetteville; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Worden, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Wilder, six bunches.

Wagener & Co., Pultney; first prize, three dollars.

Ulster Prolific, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Diamond, six bunches.

Wagener & Co., Pultney; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Vergennes, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.
M. F. Pierson, Seneca Castle; third prize, one dollar.

Pocklington, six bunches.

Wagener & Co., Pultney; first prize, three dollars.
M. F. Pierson, Seneca Castle; second prize, two dollars.

Moore's, Early, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Ellwanger & Barry, Rochester; second prize, two dollars.
Wagener & Co., Pultney; third prize, one dollar.

Eaton, six bunches.

M. F. Pierson, Seneca Castle; first prize, three dollars.

Agawam.

Wagener & Co., Pultney; first prize, three dollars.

Salem, six bunches.

P. Worden, Fayetteville; first prize, three dollars.
Wagener & Co., Pultney; second prize, two dollars.

Jefferson, six bunches.

Wagener & Co., Pultney; first prize, three dollars.

ABSTRACT OF REPORTS OF TREASURERS OF COUNTY AGRICULTURAL SOCIETIES, 1892.

COUNTY.	Balance from 1891.	Receipts, appropriation included.	Premiums.	Expenses.	Balance to 1893.	Remarks.
Albany	$39 99	$22,094 12	$9,636 50	$13,112 37	$614 76	Per imp., $557.83; payment on ind., $377.20.
Allegany	129 16	1,985 80	531 20	1,663 23	337 79	Races, $618; per imp., $225.67; payment on ind., $242.77.
Broome	56 67	4,187 64	1,537 50	2,681 87	24 94	Races, $1,140; per imp., $369.50; payment on ind., $200.
Cattaraugus	133 65	3,548 16	579 55	2,949 17	153 09	Races, $1,175; per imp., $440.52; payment on ind , $504.
Cayuga	5 87	5,472 96	1,148 75	4,091 95	226 39	Races, $687.20; payment on ind., $507.42
Chautauqua	550 48	5,132 07	2,213 25	3,301 46	167 84	Races, $1,040.
Chemung	81 94	4,728 52	1,671 75	3,040 49	98 22	Per imp., $501.43; payment on ind., $52.92; races, $435.
Chenango	1,202 26	9,479 88	1,043 90	9,304 07	334 17	Per imp., $8,024.32; races, $750.
Clinton	3,597 83	10,815 72	1,684 00	8,435 93	4,293 62	Races, $3,843.05; per imp., $1,163.45.
Columbia	285 73	7,748 91	1,266 25	6,460 07	308 32	Races, $2,414.50; per imp., $2,252.42; payment on ind., $125.
Cortland	....	6,271 48	317 00	6,489 16	534 68	Races, $4,987.78; per imp., $388.
Delaware	9 19	3,724 66	1,668 17	2,020 79	44 89	Per imp., $1,192.69.
Dutchess	508 44	12,332 49	1,958 75	10,989 63	107 45	Races, $2,265; payment on ind., $234.94.
Erie	874 66	7,092 22	2,267 50	5,073 82	625 56	Races, $1,836; per imp., $1,335.30; payment on ind., $228.30.
Essex	73 14	3,054 71	733 20	2,275 53	119 12	Races, $650; per imp., $200; payment on ind., $104.30.
Franklin	1,136 75	8,871 00	1,796 50	6,926 84	1,384 41	Per imp., $2,024.49; races, $2.430.
Fulton	481 47	9,612 79	2,033 35	9,897 18	163 73	Races, $1,830; per imp , $3,192.80; payment on ind., $821.
Genesee	114 64	4,506 90	1,062 60	3,544 31	14 62	Races, $803; per imp., $695.01; payment on ind., $720.33.
Greene	489 10	2,722 30	914 17	1,773 08	524 15	Races, $846.25; payment on ind., $13.58.
Herkimer	1 63	3,874 60	718 43	3,992 08	834 28	....

Jefferson	3,381 37	10,354 70	2,255 10	7,600 00	2,881 77	Per imp., $1,168.85; races, $2,435.50.
Lewis	138 53	5,729 58	888 75	4,258 50	720 86	Races, $742.50; per imp., $239.43; payment on ind., $1,426.08.
Livingston	821 43	2,600 22	1,254 75	1,760 68	406 22	Races, $182; payment on ind., $700.12.
Madison	97 60	1,740 12	728 75	682 01	426 96	Races, $150; payment on ind., $231.59.
Monroe	2,124 97	17,872 95	8,855 18	8,714 93	2,427 81	Races, $1,370.
Montgomery	502 19	5,979 75	1,251 95	4,994 30	235 69	Per imp., $1,205.47; races, $1,270.
New York Am. Institute	54,138 16	20,847 92	... .	34,483 95	40,502 13	....
Niagara	117 01	3,836 00	875 70	3,008 02	69 29	Races, $727.50; per imp., $493.03; payment on ind., $300.
Oneida	241 32	7,015 59	2,066 50	5,018 14	172 27	Races, $1,432.25; per imp., $1,610.05.
Ontario	705 82	3,743 26	1,881 85	1,744 91	822 32	Races, $250; per imp., $108.05.
Orange	7,015 51	5,672 60	2,762 00	3,746 45	6,179 66	....
Orleans	55 54	4,729 76	1,309 00	3,321 03	155 27	Races, $183; per imp., $215; payment on ind., $1,893.
Oswego	....	5,145 91	1,876 25	3,269 66	....	Races, $632.35.
Otsego	1,710 42	4,614 93	1,210 65	2,622 34	2,492 36	Races, $540; per imp., $767.81; payment on ind., $90.
Putnam	161 51	1,779 37	1,227 75	894 25	181 12	Races, $725.
Queens	7,678 18	25,151 84	5,305 38	17,626 17	9,898 47	Races, $5,104; per imp., $3,977.28.
Roockland	11 59	1,825 93	614 20	1,213 80	9 52	Races, $250.
St. Lawrence	221 68	8,598 62	1,560 85	6,169 62	646 47	Races, $2,231.25; per imp., $779.11; payment on ind.; $168.
Saratoga	281 08	5,382 45	1,228 80	3,578 46	856 27	Races, $805; per imp., $350; payment on ind., $890.63.
Schoharie	97 34	3,168 79	919 50	2,201 11	145 52	Races, $550; per imp., $87.69; payment on ind., $722.75.
Schuyler	86 80	1,206 82	288 25	1,080 17	74 80	Races, $390; per imp., $240.
Seneca	1,054 69	2,823 81	763 50	2,267 20	847 80	Races, $264; per imp., $1,046.59; payment on ind., $240.
Steuben	74 85	8,101 04	2,264 50	5,761 69	....	Races, $1,204; per imp., $747.24; payment on ind., $1,198.60.
Suffolk	98 96	5,215 42	2,059 50	4,093 07	838 19	Per imp., $432.78; races, $696.75.
Sullivan	971 23	2,412 84	1,090 25	899 20	1,394 62	Per imp., $140.17; payment on ind., $50.
Tioga	107 22	2,652 49	971 55	1,719 18	145 46	Races, $391.50; per imp., $366.62.
Tompkins	78 02	11,189 83	1,628 50	9,601 53	37 82	Races, $1,239.50; per imp., $4,491.13; payment on ind., $287.20.
Ulster	573 21	2,487 10	1,086 56	859 61	32 28	Per imp., $50.75.

ABSTRACT OF REPORTS OF TREASURERS OF COUNTY AGRICULTURAL SOCIETIES, 1892 — (*Concluded*).

COUNTY.	Balance from 1891.	Receipts, appropriation included.	Premiums.	Expenses.	Balance to 1893.	Remarks.
Warren	$168 37	$4,346 80	$734 03	$3,429 06	$352 08	Races, $895; per imp., $1,216.86; payment on ind., $827.20.
Washington	713 32	12,796 96	3,040 25	10,442 40	27 63	Races, $1,450; per imp., $275; payment on ind., $610.25.
Wayne	238 97	2,727 49	1,296 90	1,440 00	248 38	Races, $360; per imp., $250.
Westchester	128 86	18,685 27	2,500 00	15,883 18	400 95	Races, $2,550; per imp., $6,746.18.
Wyoming	637 72	2,639 88	951 00	1,898 68	427 92	Races, $562.50; per imp., $530.81; payment on ind., $60.
Yates	3 69	2,514 92	660 25	1,750 80	107 56	Races, $241; per imp., $233.85.
Iroquois Indians	294 53	632 50	247 52	423 70	333 25	Races, $36; per imp., $20.87; payment on ind., $42.50.
LOCAL SOCIETIES.						
Cobleskill	1,218 89	5,008 00	1,475 00	2,774 00	1,977 89	Per imp., $300; races, $850.
Phœnix Union	22 61	1,679 20	421 42	1,280 39	....	Races, $374.75; payment on ind., $335.
Racket Valley and St. Regis Valley	134 07	8,823 83	1,491 15	7,388 34	78 41	Races, $2,530; payment on ind., $1,800,
Oswego Falls Agricultural Society	76 53	3,636 68	1,613 25	2,028 79	71 17	Payment on ind., $375.

A HIGHER VETERINARY EDUCATION

ESSENTIAL TO THE

Maintenance and Improvement of Our Live Stock, to Our Soil Fertility, Our Foreign Markets and Our Public Health.

A Lecture Delivered before the State Agricultural Society at Albany, January 18, 1893, by
JAMES LAW, F. R. C. V. S., of Cornell University.

In presenting certain reasons why this country should furnish better facilities for the more thorough and extended study of veterinary medicine and surgery, attention may be first called to

The Numbers and Value of Our Live Stock.

By the census of 1880 the horses, asses, mules and meat-producing quadrupeds on farms in the United States numbered 130,969,581, whereas the aggregate live stock of the same kinds in Germany, Holland, Belgium and France did not exceed 119,572,323. The four European countries named have established and fully equipped no less than ten State veterinary colleges for the protection of this stock, while the United States has provided not one such government institution for the preservation of its far more numerous animal possessions.

I have not secured the United States census returns for 1890, but a material increase may be assumed, since the census for 1870 gave only 85,693,913 as the numbers of our farm animals, which were, therefore, increased by over one-half in the succeeding decade. But our census rturns take no account of horses and cows kept in cities, or otherwise than on farms, so that the numbers given are far short of the actual ones.

The estimated value of our live stock on farms in the United States in 1880 was $1,500,384,707, less by nearly $25,000,000 than the estimate for 1870, though at that date the numbers do not exceed two-thirds of those of 1880. This depreciation in individual value was manifestly largely due to the practically free pasturage of the government lands in the territories, and as this is being daily restricted by actual settlement, and as our consuming population is constantly increasing in proportion to our agricultural, we may confidently look for a steady enhancement until we reach the former values. Allowing for the inevitable increase from 1880 to 1890, for the city animals not recorded in the census, and for the rise in the value of individual animals, we may safely set our present actual investments in live stock, at not less than $2,000,000,000, with the prospect of a steady appreciation year by year.

By the census of 1890 for horses, asses and mules, and the estimate of the department of agriculture for other stock in 1892, the number of farm animals in the State of New York was 9,454,257, divided as follows: Horses, asses and mules, 669,066, cattle, 2,328,015, sheep, 1,421,455, and swine, 5,035,721. This is over one-fourteenth of the entire live stock on farms in the United States by the census of 1880. Their value as estimated by the department of agriculture ($131,209,474), is over one-twelfth of that of the farm live stock of the entire United States as given by the same census. By this estimate the value of live stock on farms in New York exceeds that of any other State of the Union excepting Illinois with $132,437,762.

These great animal possessions from two to three times as numerous as our human population, are, like the latter subject to "all the ills that flesh is heir to" — to exposure and accident, to insanitary food and environment, to functional, developmental and structural diseases of all kinds, to infections and poisons in great variety. The susceptibility to disease, the morbid manifestations, and the treatment vary with each of the five genera — horse, ox, sheep, goat, pig — which make up the herbivorous and omnivorous farm quadrupeds, and in keeping with this the ideal physician of animals must have a broader and more comprehensive education than the physician of the one genus — man. That the services due by the veterinarian to the community demand the realization of this ideal will be seen later. At this point it is only necessary to note that this immense and valuable aggregate of domestic animals, constitutes a most unstable property, constantly liable to deterioration and loss, by lack of judgment in breeding, by unwholesome and otherwise faulty rations, by insanitary surroundings of all kinds, by accident, disease and infection, unless a constant vigilance is exercised for its preservation and improvement.

Soil Fertility Dependent on Increase of Live Stock.

The present commanding position of the United States as being to a large extent both granary and meat market for the world, is such an important factor in national prosperity, that whatever conduces to maintain this ascendency should be carefully fostered by the commonwealth. Essential to this pre-eminence is the permanent fertility of the soil, and in no way can we more easily and cheaply retard the exhaustion of the soil than by the increase of our live stock which secures a return to the fields, of much of the inorganic plant food otherwise removed in the crop. Wherever a district is heavily stocked with animals (Westchester, Putnam and Orange counties), we find the soil richer and the crops larger in consequence. Where on the contrary the land is scourged by taking a succession of crops without heavy outlay for manure, it becomes rapidly exhausted, and the successive crops become steadily smaller and less remunerative. The great numbers of our live stock relatively to that of the European countries above quoted would be misleading if we failed to take into account the difference in the respective areas. But when we consider that the combined area of Germany, France, Belgium and Holland is only about one-seventh that of the United States (exclusive of Alaska),* while their live stock is to ours as twelve is to thirteen, we must realize, how with us, under a system of continuous cropping, soil-exhaustion must go on with enormous rapidity, as compared with that of Europe. Already most farms in the older States produce less than one-half the yield per acre which they formerly did, and which they ought still to do, and if the present course is persevered in, it requires no prophet to foretell the decadence of American agriculture, and of our national proseprity which is so intrinsically connected with and dependent on our agricultural success.

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* France, Belgium, Holland and Germany cover altogether but 436,251 square miles, while the area of the United States (exclusive of Alaska) is 3,025,600 square miles. The farm quadrupeds (herbivorous and omnivorous) of the European countries named are 119,572,323, while those of the United States (census of 1880) are 130,969,581.

Scientific Stock and Meat Inspection and Our Foreign Meat Market.

Up to the present time the live stock of the United States has been practically debarred from the English market, on the ground that we failed to furnish a reliable bill of health which would guarantee the English herds against resulting pestilence, and our enterprising shippers have been condemned to see their best cargoes consigned to quarantine yards adjoining the piers, in which the stock had to be slaughtered within eleven days of the date of landing. Live stock shipments have therefore often to be slaughtered when the meat market is glutted, and as they can neither be held for a rise, nor reshipped to better inland markets, the resultant average losses on our export cattle have been estimated by shippers at ten dollars per head, or at least $2,000,000 per annum.

The dealers naturally resorted to the trade in dressed meat, but here again the outlay for cold storage in transit and later, together with the perishable nature of the article, entailed a high tax and an element of uncertainty which seriously interfered with the profits. Add to this that on the continent even our dressed meat, and especially our pork, was rejected because of the alleged danger of disease and the absence of a government inspection and guarantee, and we can have some idea of what this country has lost through the neglect of veterinary science.

Lately the vigorous action of the national government has succeeded in effecting the removal of some of these barriers to our foreign meat trade, but this has only been secured at the expense of the veterinary inspection of the meat exported. This action has, however, incidently fostered and strengthened a monopoly of the grinding exactions of which the stock raisers had been long and grievously complaining. The market for the cattle, sheep and swine of the west and of the Mississippi valley generally centers mainly in Chicago, and to a less extent in Omaha, Kansas City, and St. Louis, so that it is generally claimed that the large packers at these central points can virtually control the market and buy the live stock at their own prices. When, therefore, the national government established inspectors at the great packing works in these cities, to the exclusion of the remainder of the United States, they virtually established a monopoly of the foreign meat trade in the hands of a few large packers, to the exclusion of all others who may desire to compete.

For the time being these great packers are given the exclusive trade in our surplus meat, which they alone can export to Europe as dressed meat, and they are thus enabled to command the market at all points. They can buy the surplus at their own prices, the only check being by the (already hampered) export of live animals and as the price of the surplus determines the prices obtainable in the general market, they have it in their power to depreciate the prices of live stock in general, to rob the live stock industry of its profits and to hasten the progress of soil exhaustion.

The intention of our government was good, namely, to use the small means at their command to unlock the foreign market, but the immediate result on our stock raisers, feeders and (outside its privileged circle) on our butchers, is as injurious and unjust as can well be conceived of. Such a monopoly is so unrepublican, so unfair, so pregnant with harm to the great majority that it can not possibly continue. It is not only administering the government in favor of the rich at the expense of the poor; it is not only putting the meat market in the hands of a few men whose injurious control of the trade was already seriously alleged; it is also placing a tax on the whole meat producing industry, and threatening the country with a reduction of our live stock, and a consequent sterilizing of our soil.

For this there is only one remedy, unless indeed we are prepared to resign our foreign meat market. The government inspection must be extended and every one who so desires must be granted the privilege of competing in the foreign meat market. This entails, what the nations of Europe have long enjoyed, a general municipal live-stock and meat inspection. And in order to do this our means of veterinary education must be so improved that the requisite number of trained professional inspectors may be obtainable.

Such a general inspection implies its application to our home supplies — for the sanitary protection of our own communities — and of our native flocks and herds, so that the urgency and prerequisites of such supervision may be further treated under one general head.

Inspection for the Protection of Our Native Live Stock and of American Public Health.

The exclusion of our live stock from Europe is ostensibly that the European herds may be protected against infection from this side of the Atlantic. The exclusion of our meats has been avowedly for the protection of the public health. No object less important than these could have secured such exclusion in the face of the urgent demand for cheap meat by the teeming millions of manufacturing Europe. If the European needs and obtains such sanitary protection at the hands of his government, is it less essential that a similar boon be granted to the American citizen ? Is the health of the average American of less value to himself and his country than that of the average Frenchman or German? And if our herds, equally with those of Europe, suffer from contagious diseases communicable to man, is it not equally necessary to check the extension of such maladies in our own herds, in order to the protection of our communities ?

Ancient Sanitary Precautions.

The risk of contagion from the dead animal body appears to have been early recognized by primitive tribes. Among many early people a dead body is tabooed; the priests of Jupiter might not touch uncooked meat, and the Brahminical priests eat no meat but what has been offered in sacrifice and roasted. The Jewish law distinguishes between the clean and the unclean—the beasts that may be eaten and those that may not. The animals forbidden by the Mosaic code are in the main the purely carnivorous and omnivorous, those which, by the devouring of other animals, are especially liable to contract and transmit any contagion or parasite with which their prey may be affected. In drawing a safe practical limit this code virtually restricts the edible mammals to the ruminants, which are par excellence the herbivorous. But even in the case of these clean (edible) animals this Jewish law forbids the consumption of the flesh of the subject that has died of disease, of strangulation, or with the blood in the carcass.

The prohibition falls first on the flesh feeders which are the most apt to reciprocate with man in the maintenance and propagation of parasites and infections; then it denounces the sick as especially dangerous — the sickness being in a certain number of cases the result of parasitism or infection; finally it prohibits that which dies full of blood and is therefore especially liable in a hot climate to early putrification. Proceeding from the generic to the specific, it lays down rules, of a crude kind it is true, feeling as it were in the dark for protection against an imminent danger, and yet perhaps they were as perfect and definite as could be understood and operated by a people with their grade of intelligence. The prohibition of blood was probably ritualistic rather than sanitary in its object, and yet as shown by Signol's experiment, the blood of the portal vein of a suffocated horse had become the seat of an infection which could be inoculated from horse to horse with fatal results for several successive generations. The microbes from the intestines had entered the blood and there developed most deadly qualities.

Imperfect and unsatisfactory as these Mosaic prohibitions are when considered in the light of modern science, they have served as a special protection to this people for nearly 4,000 years, and even now their value is abundantly shown in the comparative immunity of the Israelite from such diseases as trichiniasis, the pork tapeworm and tuberculosis. It is a serious reflection on our nineteenth century civilization, that with all our advanced knowledge of disease and its causes, the Mosaic law, given so many milleniums ago is incomparably better than that which we Americans apply to-day in our stock-yards and markets for the sanitary protection of our people. Caeteris paribus the "kosher" meat of the honorable Jewish butcher is safer for the consumer, than that which he finds in other stalls even though it may have been subjected to a municipal sanitary inspection.

But however excellent for a dark and unscientific era, the Jewish laws of meat is woefully deficient in the light of these closing years of the nineteenth century. It makes no real distinction between the dangerous and the harmless. It condemns whole genera of wholesome animals, because some individuals of each genus will at times convey deadly poisons, and it prohibits the wholesome flesh of a distorted, imperfect or injured animal equally with that which is the subject of a fatal infection. Moreover some of the most deadly diseases while, like certain forms of anthrax, produce no visible change except in the blood (and perhaps the spleen) pass unsuspected under the scrutiny of the rabbi because he has no occular evidence of the diseased changes in the solid tissues. With our modern knowledge of the life-history of parasites and the microbes of disease this imperfect and unintelligent selection and rejection must give place to a true scientific scrutiny, and every available resort — microscopical, chemical, physical, biological and otherwise — must be brought into requisition to protect the public from the truly dangerous animal foods. The inspector must therefore be a scientific man. The political appointee, whether butcher, cattle-dealer or veteran, has no place here, unless he adds to his other claims a thorough training in veterinary medicine, chemistry, microscopy, biology, parasitism and bacteriology. The fact that a candidate is a physician or even a veterinarian is not of itself enough. He must show by a theoretical and practical examination before a board of experts that he is familiar with this whole scientific field, and that the health of the public may be safely intrusted to his care.

This will be better apprehended after considering one or two examples of the diseases of our meat-producing animals, that are communicable to man, and this can not be better begun than with what has been aptly termed the white plague of the north.

Tuberculosis.

From this terrible scourge, the sheep, as usually kept, is almost entirely exempt, while in cattle, goats, pigs, rabbits, guinea pigs and chickens, the susceptibility is very great. Man belongs to the susceptible genera and about every seventh death in our population is from tuberculosis. Among many wild animals also the proclivity is very strong and thus at every hand, man is liable to be subjected to its redoubtable bacillus. Through unsuspected, but proximate channels, like the mice and rats in our dwellings and about our food stores, the microbe may be conveyed and multiplied. Its dangers are all the greater that in many cases occurring in both man and beast the disease assumes a chronic course and its victims manifest a fair measure of health, so that they are afforded a long and continuous opportunity for the diffusion of the poison. The vitality of its poison is very great, the germ resisting with like success the lapse of time, freezing, wetting, drying and curing of the meat, and even, in many cases, the heat of ordinary cooking.*

The dried-up expectoration is easily diffused on the air to be inhaled with deadly effect by man and beast, and though for man the most common vehicle of infection is the handkerchief, and for beast the feeding or drinking trough, yet the dust of our streets and stock-yards, of our stables, dwellings, passenger and cattle cars are prolific sources of infection.*

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* The bacillus tuberculosis as expectorated is protected from drying and other changes by the glutinous sputa which forms a closely investing and impervious covering, but independently of this the germ has a native power of resistance to external noxious agencies, which secures it a very high degree of vitality. It long escaped recognition by the microscopist by reason of the extreme difficulty of coloring it by ordinary staining fluids, and it is only by a special mode of staining that its presence can now be easily demonstrated. Similarly it resists other destructive or inimical agencies and thus shows a power of survival that is only possessed by other bacteria when in the form of resting spores. Toussaint and others have repeatedly infected animals with meat that had been subjected to ordinary cooking.

Milk is another common medium of infection and since the time of Gerlach, has been often used successfully to produce tuberculosis in healthy animals. The udder itself is often the seat of tubercle and the germ enters the secretion directly from the diseased growths, contaminating the milk, even before it is drawn.§ There is reason to believe that in the absence of disease in the udder, the microbe may escape from the blood into the milk. But even in cases where the milk is not thus contaminated within the gland, the microbe is exceedingly liable to reach it from without. The tuberculous cow licking her udder and teats leaves the germ-charged sputa to dry on their surface and to drop into the pail when dislodged as dust at the next milking.

Pigs often contract the disease through another channel. About small abattoirs it is a common practice to feed to the pigs the uncooked offal of the slaughtered animals. As in certain districts a certain number of the cattle are tuberculous, this amounts to a systematic infection of the swine and when they in their turn come to the knife they communicate the disease in the same manner to the survivors.‡

In all such cases, rats and mice are found in abundance, and, as they eat in common with the pigs, they too become tuberculous, and when, being sickly, they are caught and devoured by the pachyderm, they serve to infect him in turn.

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* Besides the many experimental demonstrations a case was recently reported in the medical journals, in which a tuberculous clerk habitually expectorated on the floor, and the dried up sputa raised in dust at each sweeping infected clerk after clerk with the disease.

§ Recently in making a post mortem examination of a tuberculous cow, which had been in fine condition and yielding a fair flow of milk, the writer found the left front quarter of the udder studded throughout with yellow tubercles already undergoing caseation, yet the dairyman drawing the milk twice a day had never suspected anything amiss with the bag. Dr. Peters, of Boston, by inoculating with the milk of a tuberculous cow produced tuberculosis in Guinea pigs, though no tubercle could be found in the udder even after death. Other experimenters have obtained like results.

‡ Some years ago when consulted as to the existence and danger of tuberculosis in the dairy herd of a large New York State institution, the writer found half the dairy cows affected, and the pigs fed with the offal from the slaughtered cattle quite generally diseased in the same way.

Chickens kept about slaughter-houses eat the same (often diseased) offal, and are thus liable to receive and communicate the disease. The omnivorous habits of chickens indeed lay them open in an especial way to infection, for among other things they eagerly devour the fresh expectorations of the victims of tuberculosis of the lungs.

Lately Dewevre has found that tuberculosis may be transmitted by blood-sucking insects, and, after witnessing the successive tuberculization of three brothers who slept together in the same bug-infected bed, he successfully inoculated the pulp of the bed bugs on Guinea pigs, and on culture media. (Wiener Medizin. Presse, 1892, No. 62.) Bed bugs from healthy surroundings also conveyed the disease after they had been placed in contact with tuberculous sputa.

As regards the conveyance of the infection to man through the meat consumed, this has been abundantly shown by incidental cases. Observations on a large scale are, however, especially striking, and these point directly to cattle as the most common animal source of tuberculosis in man. Tuberculosis is almost unknown in countries destitute of cattle, and is very rare in such as have few cattle, or in which the herds are kept at all times in the open air, and are, therefore, less liable to be themselves attacked. Examples of this are found in the Scottish Hebrides, and Highlands, Iceland, Newfoundland, Hudson bay, northern Norway, Sweden, Lapland and Finland, and in the islands of the Pacific, including in their early days, Australia, Tasmania and New Zealand. Since the introduction of vast herds of cattle, however, the Australasian islands have been given over to the disease almost as much as the mother country herself. Italy, the common health resort of consumptives, is literally permeated with the disease and Peroncito says that for agriculture it proves a veritable scourge. Our own Minnesota, formerly the hope of the phthisical, is yearly becoming less and less desirable as it becomes more thickly settled with men and domestic cattle.*

Again the common mode of attack in children and sucking animals, the disease commencing by the abdominal organs (stomach, bowels, mesenteric glands, liver and spleen), shows unmistakably the entrance of the poison with the food.

If we further glance at countries where cattle are kept in great numbers in a domesticated condition, and largely in close buildings, where the system of the cow is depleted by an abundant yield of milk, and where the stock are preserved to old age, we see that the percentage of tuberculous cattle is very high, and that tuberculosis is equally prevalent in the human population.†

It is not to be supposed that these tuberculous cattle are habitually slaughtered and the carcasses destroyed. On the contrary the owners tell me they would have no difficulty in selling them to a certain class of butchers, and there is ample evidence that it is no uncommon practice to cut up even bad subjects into mince meat and put them on the market as sausages.

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* Dr. Brush, of Mt. Vernon, N. Y., draws attention to the fact, that in the comparative absence of cattle, the crowds of consumptives flocking to Egypt and Algiers have not contaminated the native population, while the introduction of inbred cattle into Madiera and the Sandwich Islands caused the spread of tuberculosis in the natives. In China the ruling Tartar race, eating beef and milk, suffer largely from consumption, while the poor native Chinese partaking of neither are rarely attacked. Holden tells us there is little or no consumption in Columbia where very little milk and no butter is used, and the same is true of Ecuador and the inland parts of the Argentine Republic. American Indians on the contrary, who devour the cattle raw when killing them, and later eat dried pounded preserved meat without cooking, suffer frightfully from consumption. Even in the Northwest where white victims of consumption go for relief and cure, tuberculosis causes fifty per cent of the total Indian mortality (Green Bay, Wis., Tulalip, W. T., Western Shoshone, Nev.). At Lower Brulé, Dak., scrofula is present in sixty per cent of Brulé Sioux under 21 years. At Crow Creek, Dak., fifty die every year of consumption and scrofula out of a population of 1,200. (Dr. Holden in *Medical Record, August* 13, 1892.) Dr. Fred Treon, of the Crow Creek Agency, refers to the consumption of the raw diseased meat in these terms: "Saturday, early in the morning, the cattle are shot down in the corral, and the Indians drag them out, skin and cut them up. I have observed them frequently, while slaughtering, eating the warm liver, tallow and often the entrails and great quantity of raw beef. In fact, much of the beef is dried, pounded up and eaten without cooking. Frequently they eat animals that have died of disease days before, and to my mind here is a good solution of the trouble. * * * * Supposing that only one out of a thousand cattle received be affected with tuberculosis or actinomycosis, from the manner of dividing the beef it is possible, and probable, that one hundred persons may become inoculated by a single diseased animal." (*American Practitioner.*)

† Hurtel d' Arbaval says that the districts of Brie, Beauce and Caux twelve per cent of the cattle are tuberculous (Dict. de Med. Veter.); Wolf states that at Liegnitz fifteen per cent are affected; Zura alleges that around Jena and in Eisenberg, and the Duchy of Altenbourg twenty per cent of the cattle have tubercle; Göring found that in 5,052 tuberculous cattle in Bavaria in 1878, only

Is it surprising in the face of these facts that the vital statistics of New York show that for a period of eight years, ending in 1888, every eighth death was caused by tuberculosis? We must not ignore nor undervalue the accessory and predisposing causes of the disease nor the special power of resistance of certain individuals and families. Many persons show little susceptibility, and for many the environment is favorable to resistance, yet the facts remain that none contract this affection in the absence of the germ, practically no efficient measures are taken to restrict its prevalence, and twelve per cent of our human mortality is justly chargeable against it. No other single disease approaches this as a cause of mortality to the human family — no epidemic, however deadly, swells the death list to any such extent. The report of the New York State Board of Health, for January, 1892, gives the total mortality 17.42 per 1,000, from all zymotic diseases 3.23, from consumption 1.9.* And yet consumption is always and everywhere the result of the implanting of a germ or seed, as the oak always springs from the acorn, and this being the case it is clearly amenable to restrictive measures and finally to complete extinction.

As we have just seen one main factor in this extinction must be its extirpation from our domesticated herds which now contribute so largely to its increase and diffusion. In carrying out

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sixty-three (1.3 per cent) were under 1 year old, 551 (10.2 per cent) were between 1 and 3 years, 1,730 (34.5 per cent) from 3 to 6 years, and 2,360 (46.5 per cent) were over 6 years. Ströble and Magin found 1,123 tuberculous out of 44,699 cattle slaughtered at Munich, the respective ages being under 1 year two (0.2 per cent), 1 to 3 years eighty-one (7.1 per cent), 3 to 6 years 378 (33.5 per cent), and over 6 years 664 (59.2 per cent). A somewhat approximate ratio holds in American herds, the range cattle accustomed to open-air life and weeded out before shipment presenting but a small fraction of one per cent, while old dairy cows may range from five per cent to fifty per cent, and even in exceptional cases to ninety per cent. I can recall one thoroughbred Devon herd of sixty head in which there was only one manifestly sound animal, while in my experience other herds of different breeds and of no definite breed have had fifty per cent diseased. The young and those that live exclusively in the open air always show the fewest victims.

* Tuberculosis cuts off over 12,300 inhabitants of New York yearly, whereas diarrhœal diseases, many of which, in children especially, are tubercular claim 8,800 more, while all other zymotic diseases count but 14,000 or two-thirds of the aggregate of the first two. (Ninth Annual Report of the New York State Board of Health.)

such extirpation we must employ men who have undergone a thorough training in the science of animal diseases.

The difficulty of diagnosis, in many cases of tuberculosis, renders it imperative that the inspector must be a man of thorough knowledge and training. The disease is so varied in its seat, so different in its intensity in successive cases, and therefore so protean in its manifestations that a volume might be written on its diagnosis, and after reading this the uneducated or non-professional man would still be greatly puzzled to recognize the disease. Those who think they know something of the malady mostly associate the idea of consumption with a vision of an animal in the advanced stages of the pulmonary form, with extreme emaciation, a frequent racking cough, profuse expectoration with solid particles or flakes in a liquid medium, a heavy and somewhat offensive breath, inappetence, sunken eyes and general wretchedness. But in cattle the majority of cases show no such symptoms, at least for a length of time (often years) after the outset of the disease, and to the unprofessional eye, the plump, fleshy animal may seem a picture of health.

Beside the lungs, which may or may not be involved, the following organs are most frequently attacked:

First. The bowels and abdominal lymphatic glands.

Second. The throat and pharyngeal lympathic glands.

Third. The spleen, liver, pancreas or kidneys.

Fourth. The generative organs.

Fifth. The subcutaneous and intermuscular lymphatic glands.

Sixth. The cancellated tissue of the bones and the joints.

Seventh. The skin.

As each of these forms may assume all grades of extension or activity it must be manifest that the symptoms may be of the most varied and complex kind and that the greatest skill may be requisite to diagnose a chronic or subacute case of tuberculosis in the animal. In many occult cases, indeed, no human skill is equal to a successful diagnosis without the employment of special instruments and methods, and these again are of no avail in the hands of the man who has not had a special training in their use in this affection. The use of the microscope may be called for, but the microscope in any but the most accomplished hands will fail to reveal the tubercle bacillus. Even if bacilli were found this would mean little, as these might be the bacilli of anthrax, malignant oedema or any one of a long list of affections rather than those of tuberculosis. They might even be harmless bacilli, accidently present and incapable of causing any disease in the animal. It is only by a special prolonged action of given staining agents and a careful subsequent bleaching that the tubercle bacillus can be identified. In cattle, too, even in the tubercular glands, the bacillus is often present in very small numbers and the failure to find it does not prove conclusively the absence of tuberculosis.

It may, therefore, be requisite to adopt other modes of diagnosis, such as the use of Koch's "tuberculin," which in appropriate doses usually raises the temperature of the tuberculous animal, and produces no material effect on the non-tuberculous. But as even this may fail, in very exceptional instances it may become necessary in the case of valuable animals to inoculate from the suspected subjects on a healthy susceptible animal of small value (rabbit) and if the disease results and, as is usual in such a case, in the acute form, to identify the affection by the specific symptoms produced.

Though we were to confine our attention to tuberculosis alone, in its relation to the resultant losses of our live stock and the still more important sickness and mortality among our people, we would find urgent demand for the liberal equipment of an institution for the training of inspectors whose work should be the restriction and extinction of this all but universal scourge of man and beast. To appoint uneducated or imperfectly educated men to such work is but to squander the means appropriated, and to bring condemnation and contempt on the effort. The highest skill must be developed and employed for the inspection of our herds (especially our breeding and dairy herds), our stock yards and our slaughter-houses, if we would deal successfully with this ubiquitous, protean and deadly malady.

To a veterinary college such as is contemplated, other no less important functions and duties would belong. Among these would be the culture of the tubercle bacillus and the production in quantity of a standard and reliable article of "tuberculin" to replace the imported article which is now offered at what is practically a prohibitory price.

Anthrax.

This affection agrees with tuberculosis in finding a ready field for its propagation and growth in the almost uniformly susceptible bodies of the different genera of mammals. Chickens show little susceptibility, yet when their health or vitality has been impaired by exposure to cold they become equally susceptible with the mammal. Anthrax differs, however, from tuberculosis in many very important respects. It is far more speedily fatal, death or a prompt recovery taking place in a few days and in case of recovery the subject has lost its susceptibility to another attack. Unlike tuberculosis its germ may be implanted and propagated in certain dense, wet or septic soils in which its spores are preserved indefinitely and which prove deadly to flocks and herds placed upon them or fed with fodders cut from them. In the dried condition, as dust, the germ (bacillus) is not so resistant to destructive influences as that of tuberculosis and hence it is not so easily and indefinitely propagated from animal to animal irrespective of locality and thus tends to die out if the soil is not favorable to its survival and propagation apart from the animal body. In the superficial layers of soil favorable to its propagation it can, however, produce "resting spores" which are comparatively indestructible, and can be preserved for an indefinite length of time in a dry condition and carried to any distance without losing their virulence. It is thus the scourge of given localities, and out of such localities appears usually as isolated cases or outbreaks, directly due to the introduction of a diseased animal or some of its products (carcass, blood, milk, butter, cheese, hair, wool, bristles, hides, bones, horns, hoofs, manure, litter). Knives, clothing, wagons and other solid bodies stained with the products are also occasional modes of conveyance of the poison. The virus is also conveyed from animal to animal by mosquitoes and other blood-sucking insects, and even by flies, which get their legs and proboscis charged by preying on the diseased and then attack the healthy susceptible animal. Bollinger successfully inoculated the disease from the stomachs of such insects.

In keeping with the above it is found that the disease in man is most frequent in certain trades, such as herdsmen, farmers cattle dealers, drovers, butchers, tanners, hair workers, felters and wool sorters, yet through the food products of the diseased animals it may attack the general consumer.

In 1770 during an anthrax epizootic in St. Domingo 15,000 of the inhabitants died in six weeks from eating the dead animals (Placide Justin); in 1677, 60,000 died at Naples from a similar cause, and in the anthrax years on the steppes of Asia, there are not only ruinous losses of cattle, but thousands of human beings die of anthrax in a single year.

In our northern States the infection of man is less frequent, yet it is not uncommon. A few years ago in the Genesee valley where over 100 cattle suffered in a herd of 200, three of the attendants contracted malignant pustule and were sick at the time of my visit. Dr. Bell, editor of the Sanitarian, recorded sixty cases that had come under his notice, and no physician who has practiced long in the vicinity of a tannery has failed to meet with the disease. Many cases, it is true, are mistaken for other affections, such as erysipelas and diphtheria. Near a stream draining a small tannery in Tioga county, the cattle die yearly of anthrax, and in the blood of one such victim, a few days ago, I found abundance of the germ (bacillus anthracis). A rabbit inoculated with this blood died in forty-eight hours, its spleen having increased to thrice its normal size, and the blood swarmed with the bacilli.

Men consuming anthrax flesh, milk, etc., usually suffer from internal anthrax, which is very often mistaken for some other affection. Those affected through external contact with the sick animals or their products have the disease at first localized in the skin, and almost invariably in those parts (face, hands, arms) which are habitually bare. These parts are of course the most likely to be contaminated by touch or by the attacks of insects.

It will be observed that the danger to man is in the main coextensive with the prevalence of anthrax in animals.

But in many cases of anthrax there is manifested, in the carcass, little or no change, visible to the unaided eye, apart from a lack of cohesion in the blood clot, and an engorged condition of the spleen. Nor are the symptoms always very manifest during life. An ox having its temperature elevated to 105 degrees F. by the presence in its system of the bacillus, may be in the highest condition, with sleek coat, and even some amount of vivacity and activity, and to the ordinary eye, there appears no good reason why it should not be slaughtered for human food. Yet that ox is likely to prove deadly to those who partake of it. Here, therefore, there is demanded, not only the skilled eye, but also the thermometer and the microscope to certify to the existence of the disease or otherwise.

So it is in the post mortem examination: Any one familiar with the work of slaughtering, if particularly observant, might recognize that the spleen was enlarged, but it would require the skilled microscopist and pathologist to determine whether the enlargement was due to the anthrax bacillus, the bacillus of black quarter, or the plasmodium of Texas fever. From Texas fever man is exempt, so that he may eat the flesh of its victims with comparative impunity.

But for dealing with anthrax, our veterinary college must do more than furnish skilled inspectors of herds, flesh and dairy products. It must produce the men fitted to advise and direct how to drain, areate, and practically disinfect the soils in which the anthrax germ has found a congenial home. It must further cultivate the germ, and provide protective agents for the herds on land, the purification of which will be difficult, or slow, for the mere drainage of an anthrax contaminated soil may leave it for years still infecting.

For a length of time the attenuated cultures of the renowned Pasteur have been successfully employed for the protection of animals exposed to anthrax, the only drawback being that the living germs are liable to be thereby planted in fresh soil, and to be restored to their former virulence, if received into the body of a very young subject.

Toussaint's method of completely sterilizing the infecting product of the anthrax animal and using this as a protective agent is much to be preferred, as it is equally effective, and runs no risk whatever of the propagation of the germ, either in the body of the animal operated on, or in the soil on which it or its products may be placed. Since 1880, I have employed this method whenever occasion demanded, and invariably with the most excellent results. It will be observed that by this method, the ptomaines and toxius (chemical poisons) produced by the life of the bacillus are alone employed, the bacillus itself having been absolutely killed.

Quite recently, Hanker has shown that the serum of an animal rendered immune, owing to its having survived a first attack of anthrax, will rob the anthrax bacillus of its vitality, and that it may be introduced into otherwise susceptible animals with the view of protecting them from attacks of the disease, and also into animals already attacked, with the object of effecting a cure.

Different Measures Demanded in Anthrax and Tuberculosis.

These methods of protecting exposed animals, are based on the fact that an animal, as a rule, only suffers from a single attack of anthrax, and, if it survives that, it can be exposed again with impunity. In tuberculosis, on the other hand, we have a disease which may last year after year and even for a long lifetime, and, although a certain measure of tolerance or even of resistance may be acquired, the animal can never be considered immune. These two diseases, therefore, are types of two widely different classes of affections to be dealt with in the respective cases, on principles essentially distinct.

Tuberculosis is more exclusively transferred from animal to animal, may continue in the same living system for an indefinite length of time, and an attack is not self-limiting, nor productive of any very apparent power of resistence to the germ. In such a disease, every effort must be made to effect its extinction in the destruction of the germ, even to the extent of the destruction of its animal host, or, in the case of a human victim, by surrounding the patient with safeguards against his communicating it to others.

Anthrax on the other hand is due to a germ which can not only survive in the animal body but also indefinitely in certain favorable soils. Deadly as the germ is to its host, it can not maintain itself in the same body for any length of time, and if the sufferer escapes a speedy death, it becomes thence forward immune and may be exposed to any reasonable dose of the virus with impunity. Here there is the demand for the extinction of the germ not only in the living body and its immediate environment, but also in the soil, and thus soil drainage and aeration become most important factors; and until the soil can be thoroughly disinfected live stock of a susceptible genus may be pastured on such lands, provided they have been first fortified and rendered resistant toward the bacillus.

These two typical affections must serve to illustrate what can be done by veterinary medicine, alike in purifying our meat supplies, guarding the people against the sources of preventable diseases and death, our herds against extensive mortality and their owners from serious losses.

Other Animal Diseases Communicable to Man.

To show that the above has only touched the margin of the immense field open for veterinary sanitary work it may be well to give a list of some communicable diseases common to man and animals, and which may be conveyed indifferently from the human victim to the brute and vice versa. In all such cases the disorder has increased facilities for its diffusion and extension according as large aggregations of susceptible animals or of men are found in any locality. As in the case of the two already considered each disease has more or less of such individual pecularities as to necessitate that it must be dealt with in a special manner. In this list may be included:

Diphtheria. Croup.

Glanders. Farcy.

Canine madness. Hydrophobia.

Lockjaw. Tetanus.

Milksickness. "Trembles."
Malignant Oedema.
Septicaemia.
Pyaemia.
Erysipelas.
Gangrene.
Infective Osteitis.
Epizodtic Eczema. Foot and Mouth Disease.
Asiatic cholera.

Of diseases due to the more dangerous parasites of a larger size are:

Echiurcoccus.
Beef tapeworm.
Pork tapeworm.
Trichina spiralis.
Strongylus gigas.
Filaria papillosa.
Oxyurus vermicularis.
Pentastoma denticulata.
Actinomycosis.
Aphthous stomatitis. Oidium albicans.

Besides there are a number of other poisons that render meat unwholesome or deadly. Thus in animals subjected to excitement or over-exertion there are developed leucomains and toxius which turn the flesh sour and unwholesome. Then in overkept and putrid meats there are developed different chemical poisons, more or less deadly to the consumer. Then there are the poisons of snakes and other venomous animals which may so impregnate the flesh of the animal bitten as to render it most dangerous to the consumer. Then there are vegetable narcotics, which like belladonna, are harmless to certain herbivora, but render the flesh poisonous to man. Certain inorganic poisons, like phosphorus, impregnating the flesh may prove most hurtful to the human organism. Finally in all conditions of high fever and in certain other diseases the flesh becomes unwholesome and innutritious.

Animal Plagues that do not Affect Man.

A veterinary sanitary organization would not however confine its functions to warding off diseases that may attack the human family; it would be as well adapted to check and extirpate the various epizootics to which man is not naturally subject. In this way it would largely help the farmer's bank account, and do much to obviate the present depressed condition of agriculture. This, moreover, would add comparatively little to the outlay as the force would be already organized and equipped for work in any department of animal pathology.

Among the contagia affecting animals only may be mentioned:

Cowpox.
Horsepox.
Sheeppox.
Lung plague.
Rinderpest.
Texas fever.
Swine plague.
Hog cholera.
Blackquarter.
Canine distemper.
Strangles.
Influenza.
Relapsing fever of equines (surra).
Contagious pneumonia.
Oedematous pneumonia.
Contagious bronchitis.
Contagious pleurisy.
Mal du Coit. Dourine.
Abortion.
Fowl cholera.
Contagious diarrhoea in the young.
Contagious mammitis.
Quebra Bunda.
Pernicious anaemia of horses.
Pernicious anaemia of cattle.

Of the communicable diseases due to the larger parasites may be named:

Ring-worm in its various forms.

Contagious footrot of sheep.

Canker. Onychomycosis equi.

Gutturromycosis equi.

Pneumonycosis (Aspergillus of the air passages) of birds.*

Acariasis of the skin, scabies, mange; twenty-four forms form as many species of acari.

Acariasis of the lungs in birds.

Tapeworm: Five species very destructive to mammals; many more to birds.

Nematodes. Round worms. Scores of different species produce deadly epizootics.

Trematodes. Flukes. Three species infesting the liver; very deadly.

Apart from the common run of inflammations and other sporadic diseases which form the general run of ordinary veterinary practice, we have still before us, as witnessed above, a very extended list of animal diseases, all due to living, organized, parasitic beings, and incapable of occurring in the absence of such living organism, but, on this very account, capable each and all of being anticipated and prevented by the destruction of the parasite on which the particular disease in hand may depend. In regard to each, however, it is necessary to ascertain the life-history of the parasite in order to intelligently and economically limit its prevalence or secure its extinction. The ability to simply distinguish each of these affections is no small evidence of knowledge and skill, but in order to their restriction or extinction a thorough biological study must be devoted to each in its turn, that every step may be taken intelligently and effectively. The short summary of the demands of tuberculosis and anthrax, given above, will be suggestive as to the needs of veterinary education in this line, and will throw a vivid light on what may be called the criminal neglect of this subject in the past. If tuberculosis and anthrax can be dealt with only by the man of scientific training and skill, and if the methods demanded for the intelligent and successful dealing with the one, are largely different from those needful for the other, what shall we say of the education necessary to effective dealing with the sixty communicable diseases referred to above? And yet in our large cities, where meat and milk inspectors have been appointed, we usually find the office filled by a butcher or a veteran, without any scientific training whatever and utterly unfit to perform the duties of the office, or to appreciate the difficult and recondite questions that would confront the educated mind.

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* In L'Union Medicale, Dr. Potain records a severe case of this affection in a man, who had been engaged in fattening pigeons, feeding them artificially with millet blown from his mouth. The disease attacked the lungs, had lasted for six years and produced extreme emaciation as in advanced phthisis. His expectoration contained no bacilli but abundance of the aspergillus fungus. He quotes several other cases in men and women engaged in feeding pigeons in this way.

Such appointments but voice the general ignorance of this great subject. Another manifestation of the same ignorance was the passage by the Legislature of 1887 of an act authorizing any one, who will testify that he had prescribed for animals for three years previous, to register in the county clerk's office as veterinary surgeon. This was aggravated by the passage of three successive acts in the three following sessions, authorizing candidates for this degree to still enter the profession on the same terms. It may be questioned whether it was ignorance only which admitted these belated candidates on the strength of the claim that they had violated the law of the preceding year. As a sample of the result of this legislation it may be stated that in the county of Tompkins sixteen men registered as veterinary surgeons each and all utterly wanting in that education and training which goes to make the comparative physician. No one of them had been to college, nor had practically studied the structure nor functions of the different domestic animals; chemistry, materia medica, and pharmacy were to them a closed book. Their combinations of drugs were as likely to develop poisonous chemical compounds as not, they confounded one disease with another and blundered along with nostrums and placebos no matter what, so that they might draw their fees for attendance, in short, they were duly licensed to poison, maim, and slay the flocks and herds of the Empire State, and heartily did they avail of their opportunity. Very few of these men had ever been heard of before in the role of animal physicians. The other counties of the State fared no better.

Having taken one immoral step with legal sanction, such men would not hesitate to take another, and in case of the appointment of meat and milk inspectors, they would use their illgotten titles to enable them to draw salaries from the public purse for nominally protecting the public against dangers and death which approach in channels of which they are helplessly ignorant.*

With such evidence of public ignorance of this subject, it is not surprising that New York has done nothing as a State for the education of veterinarians. The establishment and maintenance of veterinary schools has been left to private enterprise, and as a matter of course, financial considerations must predominate and the length and thoroughness of the course of study must remain subservient to a pecuniary success. It is useless to deny that veterinary education has suffered seriously from this cause, so that to-day the possession of a diploma from one of the schools is not necessarily a guarantee that the owner is a desirably educated man. He has, however, received some training in the fundamental principles of comparative medicine, and if his preliminary education is such as to permit it, he may by assiduous application make himself an accomplished man.

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* The man who would exercise his legal right to secure a title and practice to which he has no moral claim, can not be expected to stop short of deception to cover his incapacity. One of the quacks registered as veterinarian in accordance with the statute, and who makes a good living by preying on the community, professed to operate on two cryptorchids to insure that their carcasses would be good and marketable, and the deluded owners, after paying him for the operations and feeding the animals for many months, had them slaughtered only to find the offending organs still in the body and the carcasses unfit for sale. They lost their fees, many months feeding and attendance and finally the sale to which they were entitled, because the Legislature had certified as competent a man who was, as the result showed, at once incompetent and unscrupulouse. A registered quack kept a stallion affected by roaring (a notoriously hereditary disease), carefully avoiding a pace that would show his infirmity, and charge a good round fee for a service that only tended to propagate roarers. A charlatan registered as veterinary surgeon in accordance with the law, called to a case of malpresentation assured the owner that nothing could be done, pocketed his fee, and after he had gone a veterinary student who had but five months at college accomplished promptly and easily all that was necessary to save the patient. On another occasion the same worthy had a mare delivered by forcible traction without rectifying the malpresentation, killing both mother and offspring amid horrible sufferings. Cases of this kind which are only too painfully evident to any observer can be adduced indefinitely, and although injurious drugging is less obvious to the stock owner, and can be too easily covered up by the glib tongue of the empiric, yet it is constantly and of necessity practiced, for the registered quack, indorsed by the statute and paid for his professional (?) services, cannot afford to confess his ignorance of pathology, diagnosis and therapeutics. The fault here is not that the charlatan is allowed to practice medicine on animals, it is that in bestowing upon him the title with all the privileges and immunities of the educated man, the State betrays its citizen stock owners into the delusion that they may safely entrust their valuable live stock to men who are neither professionally nor morally fitted to undertake the work of the veterinarian.

With a period of college study extending over ten or eleven months, as in the existing schools, it is absolutely impossible to furnish the student with the knowledge and skill necessary to do justice to his cases in ordinary practice, but how much worse prepared must he be for the difficult scientific questions that constantly beset the inspector and veterinary sanitarian. It must be added that many of the students come to college with practically no preliminary mental training, and, therefore, ill-fitted to successfully pursue a systematic course of hard study. Yet the present system can not hope to escape this imperfection. as every movement toward the extension and thoroughness of the course must remain subordinate to financial success.

A veterinary college should either be a State institution or one sufficiently endowed to exclude the temptation to cut down the requirements for the sake of a favorable balance sheet. The European veterinary colleges, equipped and maintained by the respective governments may be taken as a standard of which America should at least not come short. In these State veterinary schools of Europe, the college year usually extends from November first to July first — eight months — and in the different countries is as follows:

In Austro-Hungary, three years.

Switzerland and Germany, three and a half years.

France, Russia, Roumania, Italy, Sweden, Belgium and Holland, four years.

Spain, five years.

In the French veterinary colleges the course in 1883 was as follows:

First Year.

Physics, forty lessons.

Chemistry (first part), twenty-two lessons.

Chemistry, laboratory work: November to March, forty-eight occasions.

Botany, thirty-eight lessons.
Botany collecting, once a week in summer.
Zoology, fifty lessons.
Zoology, laboratory work.
Descriptive anatomy, thirty-four lessons.
Dissections, as much time as can be spared from other work.
External form of domestic animals, twenty-five lessons.
External form, practice on living animals once a week.
Age, as shown by preserved jaws, etc., once a day for a month.
Practical horseshoeing, four times a week.
French literature.
German.
Gymnastics.
Drill.

Second Year.

Descriptive anatomy, thirty-four lessons.
General anatomy, twenty-five lessons.
Laboratory work in histology and micrography, four hours a week in second semester.
Studies of microscopic preparations, once a week.
Physiology, forty-two lessons.
Physiology, practical laboratory work.
Teratology, six lessons.
Chemistry (second part), thirty-three lessons.
Chemistry laboratory work, March to July, thirty-two hours.
Practical horseshoeing, four times a week.
Botany, natural families, twenty-six lessons.
Zoology, fifty lessons.
Materia medica, six lessons.
Materia medica, dispensing, twelve lessons.
Geology and mineralogy, four lessons.
French literature.
German.
Gymnastics.
Drill.

Third Year.

General therapeutics, forty-nine lessons.

Pharmacy, April to July, prepare fifty different medicines.

Internal pathology (first part), thirty-six lessons.

General pathology, thirty-six lessons.

Pathological anatomy, twenty-three lessons.

Pathological anatomy, laboratory work, two hours a week.

Pathological anatomy, museum specimens, ten hours.

Clinics, two and a half hours daily.

Shoeing, two hours a week.

Operative surgery, during summer semester.

External Pathology (first part), forty-three lessons.

Hygiene, part of summer semester.

Equitation.

Fourth Year.

Contagious diseases and sanitary police, sixty-one lessons.

Veterinary commercial jurisprudence and legal medicine, twenty-eight lessons.

Inspection of meats, ten lessons.

Visits to abattoirs and Knacker's, first semester.

Microscopic work on parasites, virulent maladies and meats, four hours a week, second semester.

Write ten reports on sanitary police and veterinary jurisprudence.

Virulent diseases, vaccinations, etc., ten conferences.

Internal pathology (second part), thirty-six lessons.

Surgical pathology (second part), forty-four lessons.

Operative surgery and topographical anatomy, forty-four lessons.

Obstetrics, seventeen lessons.

Shoeing, fourteen lessons.

Operative surgery, practical, once a week, whole day, except hours for clinics.

Clinics, daily, two and a half hours.

General zootechny, twelve lessons.

Agriculture and hygiene, twenty-nine lessons.

Practical zootechny, visits to farms, fairs, markets, etc.

Agronomy, ten practical exercises.

Equitation.

The shortest period of study which will entitle a man to enter the examinations for a diploma in these countries is about two and a half times that required in our private schools of New York, while the longest is just four times as long. In the great majority it is three and a fifth times the period devoted to the study in New York. At the International Veterinary Congress at Brussels, in 1883, Professor Hugues showed by statistics that the four years of college study were no longer sufficient to satisfactorily cover the field, and that the majority of the students had now to take a fifth year in order to gain a diploma. In this connection it must not be overlooked that, in Europe, a student entering the college must give evidence of thorough preliminary training and fitness to successfully undertake the systematic hard work of the course. The candidate for admission must be either a B. S. or a B. L., or he must pass successfully such an examination as will show that he has had a satisfactory literary and mental drill.

Demands of a Veterinary School.

The demands of a veterinary college may be divided into faculty, buildings and equipment.

In the Vienna Veterinary College, in 1883, there were six professors, five adjunct professors, and four assistants; in all, fifteen teachers of professional subjects. The school at Berlin had a still larger number (seventeen). To present the matter in an appreciable form it may be well to tabulate the main subjects to be taught.

1. Descriptive anatomy of horse, ass, ox, sheep, goat, pig, dog cat and chicken.
2. General physiology.
3. Physiology of the horse, ass, ox, sheep, goat, pig, dog, cat and fowl.
4. External form and animal mechanics.
5. Vertebrate zoology.
6. Invertebrate zoology.
7. Anatomical technology.

8. Microscopy.

9. Histology.

10. Botany — phanerogamic.

11. Botany — cryptogamic.

12. Geology.

13. Physics.

14. Chemistry — general, inorganic, organic, physiological, pathological.

15. Chemistry (agricultural), in relation to food products.

16. Surgery — principles and practice of, in domestic animals. Regional anatomy.

17. Veterinary dental surgery.

18. Medicine, principles and practice of, in the various domestic animals.

19. Pathological anatomy, macroscopical and microscopical.

20. Bacteriology, medical and surgical.

21. Parasitism and parasitic diseases of the various animals.

22. Embryology.

23. Teratology.

24. Breeds and breeding of domestic animals.

25. Veterinary obstetrics.

26. Materia medica and pharmacy.

27. Toxicology, symptomatology, detection, antidotes, etc.

28. Veterinary dietetics and hygiene, including the hygiene of soils, water, building sites and buildings; also stable and harness economy.

29. Agriculture, fodder crops.

30. Shoeing of normal and diseased feet.

31. Indications showing the age in different animals (teeth, horns, etc.).

32. Examinations for soundness, warranty, etc.

33. Veterinary jurisprudence.

34. Veterinary sanitary science, control and suppression of epizootics.

35. Inspection of meat animals (stockyards, etc.), and meats (markets), and of milk.

36. Clinical practice in medicine and surgery.

Some of these, like anatomy, would more than occupy the entire time and energy of one teacher, but suppose, that on an average, three subjects could be taken up by one man, this would demand no less than seven teachers of professional subjects to be provided for.

As buildings there should be a room for clinics for the large animals, instrument room, pharmacy, operating theater, and forge; also a provision for the clinics of the smaller class of patients. Next should be a number of stalls and boxes for horses and cattle, and similar provision for the smaller animals. One anatomical building with lecture room, museum, articulating rooms, general and special dissecting rooms and macerating rooms. A bio-physiological laboratory, with bacteriological rooms and operating theater. A hospital for experimental animals, large and small, so arranged that individual animals can be left apart, and so constructed as to facilitate thorough disinfection. A pathological laboratory. A building with one or more lecture rooms, a pathological and surgical museum, study and seminary rooms. A post-mortem room and crematory. For the erection of these buildings, the sum of $200,000 would be a very modest estimate.*

An additional sum would be required for furnishing and equipment, and a continual outlay for janitors, attendants, heat, light, and materials used in the laboratories and elsewhere. To put such a college on a satisfactory basis, at all comparable to the veterinary colleges of Europe, to endow it and make it an assured success would seem to require an outlay of about $600,000. If students could be drawn at once in large numbers their tuition fees would meet a large portion of the current yearly outlay, but to draw students there must first be the full provision for a thorough course, and to leave this unprovided for would be to invite failure.

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* The Berlin Veterinary College occupies a large area of most valuable land on Louiseus-Strasse in the center of the city. At different points of this are the following buildings: (1) The main building facing Louiseus-Strasse containing three lecture rooms, a large common assembly room, library and homes for the professors. (2) Anatomical building with large dissecting room, amphitheater, laboratories for anatomy, physiology and chemistry, three small laboratories and anatomical museum. (3) Pathological building (lately finished at a cost of $50,000) containing two large lecture rooms, pathological museum, three small laboratories, two post mortem rooms and private offices. (4) Hospital, a square range of buildings surrounding a court and containing a large riding school available for clinics, external form, etc., operating theater, forge and shoeing rooms, business office, and accommodations for 130 horses and forty cows, besides sheep and pigs. (5) Adjoining this is the apothecary shop. (6) Dog hospital providing for forty to fifty dogs, with pharmaceutical rooms and as in the case of the other hospital rooms for attendants. (7) Military school with dormitory for 200 pupils, hospital for thirty military horses and large forges.

The feature of this and other continental colleges is the provision for seeing outside patients; four horses and carriages being provided to carry four tudents at a time with a professor to visit such cases.

Another essential step would be to secure such legislation as would regulate the practice of veterinary medicine and surgery in this State, and above all to provide that uneducated men would not be admitted to positions of trust and responsibility in connection with sanitary work. It would not be necessary to debar the already registered empiric from practice, but he should be compelled to do so under the title of farrier, or if he must retain the name of veterinary surgeon, now his by law, it should be made a misdemeanor to employ it without the suffix "non-graduate." Thus the State would redeem itself from becoming a party to the betrayal of the stockowner and the destruction of his stock. A State veterinary examining board should be appointed to examine and license the graduates of veterinary schools who wish to practice in New York or to become candidates for inspectorships, and before such board the already existing non-graduate registered practitioner could come, and by a successful examination, secure for himself the right to use the title of veterinary surgeon or physician, without qualification, and to become a candidate for any position of trust to which the graduate is eligible.

Whether the people are prepared for such a movement it is not for me to say. That a liberal outlay, judiciously used, would be a great economy, will be realized when we consider the enormous national benefits within our reach. The swine plague and hog cholera have been estimated to cause losses of $20,000,000 a year. There are untold losses from tuberculosis, anthrax, Texas fever, and the many other infections and parasitisms; every eighth man dies of tuberculosis the source of which in our herds can be stamped out. Our foreign meat trade can be delivered from a grinding monopoly which threatens the whole animal industry; our herds can be delivered from epizootics and our communities from sickness and loss which now form a serious tax on industrial success. This is a question which largely involves the future fertility of our soil, the permanent success of our live stock industry, the rise or fall of our agriculture, the maintenance of our foreign meat market, and the health of our people. The enormous recent advances in our science of medicine and especially of epizootics and their causes, and the constantly accumulating mass of such knowledge, impose on us correspondingly increased responsibilities; it is for us to decide whether we shall be true to the light and duties of our age and nation, or shall we close our eyes to the former and repudiate the latter, preferring the inertia of antiquated ignorance to the light of modern discovery and progress.

Some of the Most Common Fungi and Insects— With Preventives.

PETER COLLIER, Director New York Agriculture Experiment Station.

The station is in almost daily receipts of requests for bulletins relating to insects and fungus diseases of fruits, with the best known remedies and modes of applying them. The station has not prepared a bulletin devoted to this subject, for the reason, mainly, that so much was being published from experiment stations and through the medium of the agricultural and horticultural press relative to the work that it would be considered superfluous. We find that such is not the case, but that a large majority of the residents of this State are not familiar with the appearance of the different diseases and insects, or in the possession of the requisite knowledge and apparatus to carry on the work of extermination successfully. We, therefore, give descriptions of those commonly met, and give formulas and directions for using the remedies that have been found most beneficial at this and other stations.

Grape Diseases.

The black rot, caused by the fungus (Laestadia Bidwellii [Ell.] V. and R.) is the most destructive and widespread of the maladies affecting the grape. Downy mildew, brown and gray rots, are all caused by a single fungus known as Peronospora viticola (Mont.) DeBy. When the fungus attacks the leaves it causes downy mildew. When found on the fruit, giving it a light-brown appearance, it is called brown rot. And again when attacking the young fruit, covering the berries and stems with gray-white mold, which arrests their growth at once, causing them to shrivel and dry, gray rot is the term applied. Powdery mildew (Uncinula spiralis B.

and C.) attacks the upper side of the leaves, and is seen in meal-like patches on the young shoots and fruit. These patches continue to increase in thickness until they cause the cracking of the berries and render them susceptible to the attacks of other rot agencies.

For preventing the growth of the various fungi mentioned, copper in some of its salts, either in a plain solution or in combination with other chemicals, has been found the most reliable agent.

To make this plain, we will give the method of treatment that we would pursue in our own vineyard. Commencing while the vines were perfectly dormant, we would spray the vines with a plain solution of sulphate of copper made by dissolving one pound of sulphate in five gallons of water. We would next spray with the Bordeaux mixture when the vines were in full leaf and before the blossoms had opened, and follow this with a second application in about ten or fifteen days, depending upon the weather and development of the disease. The third application would be made about the time that the berries had attained the size of buckshot and the fourth fifteen days later.

For the fifth application, as the berries approach full size, and before beginning to color, we would substitute the ammoniacal copper carbonate mixture, for the Bordeaux. By this mode of treatment the spotting of the fruit, which is the main objection to the Bordeaux mixture, is avoided, and the labor of treating the ripe fruit with acid washes is saved. The failure to obtain the results expected in the use of fungicides is very often due to a lack of promptness and thoroughness in their application. It is hard to see the necessity of fighting an unseen enemy, but it should be borne in mind that the only safety lies in rendering the spores of fungi inactive. This is especially true in cases where the winter or resting spores are abundant.

Anthracnose (*Sphaceloma ampelinum*, DeBy).

This disease, like black rot and downy mildew, attacks all parts of the vine, leaves, growing shoots and fruits, and seems to be harder to combat than the above-named diseases. Conflicting statements are given as to the effectiveness of the copper compounds when used as remedies for this fungus. In reply to an inquiry received last July, with specimens of the vine showing the diseased in an advanced stage of development, the following line of treatment was outlined: "The season is so far advanced and the disease has obtained such headway, as evidenced by the samples of vines sent us, that it will be hard work for you to check it this season, but we would cut off all the diseased wood that can be spared from the vines and burn it, together with the leaves that have fallen, Then spray the remainder of the vines with eau celeste, made by dissolving one pound of sulphate of copper in two gallons of hot water. After it has cooled add one and one-half pints of commercial ammonia. When ready for use, dilute to twenty-two gallons with water. Next spring prune and burn all diseased canes, and spray once with the mixture before the buds begin to expand, and again as the buds are opening. Continue this treatment at intervals of ten days or two weeks until you have made four or five applications. Also try sulphur and powdered lime, in equal parts, applied with a sulphuring bellows on the first appearance of the disease." To find if the Department of Agriculture at Washington could give additional or a more perfect treatment for this disease the question was submitted, with a copy of the above. The following reply was received from Professor B. T. Galloway, chief of the division of vegetable pathology:

WASHINGTON, D. C., *August* 13, 1890.

DR. PETER COLLIER, *Director New York Experiment Station,*
Geneva, N. Y.:

Dear Sir.— Your favor of August fourth, addressed to the Secretary and concerning the treatment of anthracnose of the grape, has been referred to me. I can offer but few suggestions that will aid you, as the treatment you have recommended covers fully all we know on the subject. The fact is we are yet in the dark as regards an effective preventive of this disease. We have experimented with almost everything, and so far as the mixture of sulphur and lime seems to have given the best results. In some cases Bordeaux mixture, ammoniacal solution and the other copper preparations seem to have checked the disease, while in others it has not produced the slightest effect.

Briefly, the line of treatment we usually adopt is to cut out the canes which show the disease, early in the spring, before the buds start. Then we spray or wash the vines thoroughly with a strong solution of sulphate of iron, doing this of course before the buds begin to swell. The vines are then watched closely, and at the first appearance of anthracnose we apply the sulphur and lime powder by means of a bellows. It will certainly do no harm to spray with Bordeaux mixture or other copper preparation, beginning the applications as you suggest, as soon as growth starts.

Respectfully.

(Signed.) B. T. GALLOWAY,
Chief.

Apple and Pear Scab [*Fusicladium dendriticum* (Walls.) Fckl. and *Fusicladium pyrinum* (Lib.) Fckl.].

These fungi are so closely related that for general treatment they may be classed as identical and the same remedies applied in all cases. They are found on the leaves and young twigs as well as on the fruit, and may be said to be universally distributed through every orchard where the fruit which they attack is grown. There may be a few exceptions in favored localities where the disease has not found a place, but they are rare. Some varieties are more free from it than others, as R. I. Greening, the Russets, Ben Davis, Maiden's Blush, Rawle's Janet, Duchess, Yellow Bellflower, Wine Sap, etc., while Early Harvest, Fameuse or Snow Apple, Northern Spy, Fall Pippin and many more are rarely exempt from the scab.

On the leaves.— It appears first in small olive-green spots, quite round and well defined. In the form on the apple these spots appear on the upper surface, in that on the pear upon the under side. As it grows older it takes on a velvety appearance and the patches or spots become irregular, often running together and extending to the young growth.

On the fruit.— The development of the disease on the fruit is much the same as that on the leaves. Starting from the center, the spots grow or extend outward until large portions of the fruit are covered. The fruit become deformed as the portions affected are arrested in their development, making the fruits one-sided and very unsightly. The fungus attacks the fruit very early in the season, often when about the size of small peas, and possibly before all of the petals have fallen; but this is not definitely known. The season of its greatest activity is during the cool, moist weather of spring and fall. It often nearly if not quite ceases growth during the hot, dry summer months. The ease with which the fungus develops makes it reasonable to infer that the danger is not past when the fruit is harvested; but that the disease may be transmitted from infected to sound fruits by contact in storage. In any case the diseased spots open the way for the entrance of various mold fungi which cause rapid decay.

Remedies.— As the rots and mildews of the grape, the treatment for apple and pear scab must be preventive. No satisfactory results can be looked for after the fungus has developed into active growth. For this reason the treatment should commence earlier than is recommended by most workers, and while the trees are dormant, by washing or spraying the trees with sulphate of copper in solution, using one pound of copper to ten or twelve gallons of water. As the fungus is thought to live through the winter on the branches, leaves and fruit buds of the tree, this early application seems likely to give satisfactory results. The second spraying should be made as soon as the first leaves appear on the trees, and a third as soon as all the blossoms have fallen, and it is likely that a fourth spraying will be necessary when the fruit is about half grown, and a fifth if the spring continues unusually moist. After the second or third spraying, however, the periods may be regulated as thought best to secure the greatest amount of good. The fungicide which has given the best results after the first spraying is the ammoniacal carbonate of copper.

Another fungicide that has given good results is the modified eau celeste, containing carbonate of soda.

Formula.— Dissolve one pound of sulphate of copper in two gallons of water. In a separate vessel treat one pound or carbonate of soda. After the two solutions have been mixed, and chemical action has ceased, add one and one-half pints of commercial ammonia and dilute to thirty gallons with water. Extended experiment is still needed to determine the time at which the first spraying should be made, also the number necessary, and the strength of the solution required to obtain the best results, as by dilution the cost is lessened, and also the danger of injury to the foliage reduced to a minimum.

Black-knot of the Plum and Cherry. [*Plowrightia morbosa* (Schw.)]

The black-knot of the plum and cherry is distinctly an American disease, and is recognized at a glance by the rough, wart-like swelling which covers the branches and sometimes even appear on the trunks of the trees. Where the fungus is not checked, whole orchards soon become affected, and are a serious menace to every healthy tree in the vicinity. The fungus was described about seventy years ago by the mycologist Schweinitz, who thought, however, as many do still, that the trouble was due to insects, from the fact that there is often found the larva of insects imbedded in the galls. But since the very careful and systematic study of the black-knot by Dr. W. G. Farlow, in 1886, there is no reason to doubt that it is caused by a parasitic fungus, the spores of which, after ripening, become detached from the knots and are carried by the wind or by insects to healthy trees, where, in some manner, they penetrate to the cambrium layer, where they take root and grow, reproducing galls similar to the one from which they become detached.

Preventives and remedies.— As the galls are found on the native plum and cherry, growing wild in fence corners and abandoned places, they should be sought out and burned. When found on cultivated trees, the diseased portions should be at once cut out to at least three inches below the knot and burned, and the wound treated with a strong ten per cent solution of copper sulphate. If the work is done while the trees are dormant, they can be sprayed with the same solution, which will be likely to destroy any spores resting on the trees awaiting a favorable time for development. Where the knots are cut off, after treating the wound with iron sulphate, cover with a linseed oil paint.

DESCRIPTION OF GRAPE DISEASES.*

The Black Rot.

Læstadia Bidwellii. (Ell.) V. and R.

The black rot rarely attacks the berries of the grape before they are two-thirds grown; the disease more often manifests itself on berries of nearly full size. It is rare, also, that all the berries in a bunch are affected, at least at the first infection; there are nearly always some few in each cluster that escape the disease.

In its first manifestations there usually appears upon one side of the berry a livid brown spot, which gradually increases in size until the entire grape is uniformly discolored, imparting to it the appearance of rottenness, although its original contour and firmness are retained. Even before the completion of this change it usually happens that the part first affected becomes darker in color, and minute black pimples or pustules are developed, imparting a roughness to the surface. At the same point the berry now begins to lose its fullness, an irregular depression appears, which soon extends into a general withering of the berry, the pimples meanwhile having multiplied so rapidly as to cover its entire surface. The destruction of the berry is complete; it is hard, dry, shriveled to one-half or one-fourth its original size, the folds of the skin being closely pressed upon the seeds and raised into strong, prominent and irregular ridges. These last, and the little pimples which are easily seen with the naked eye, are characteristic of this form of rot. The rotted berries remain firmly attached to the supports for a long time, sometimes even till the following spring.

The disease does not extend from one berry to another by contact, nor through the tissues of the pedicles and common peduncle, but there is a distinct infection for every berry diseased.

The manifestations of the black rot do not always appear as detailed above, for not infrequently the first evidence of the disease is the sudden appearance of one or more circular, slightly depressed spots of a bluish-black color, in the center of which there soon appear a few of the little pimples or pustules above referred to. These spots increase in size, the pimples in number, and ere long the berry exhibits the black and shriveled appearance already described.

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* From Department of Agriculture Reports and Circulars.

These changes are effected in from one to five days, varying with the atmospheric conditions. Some authors assert that the same fungus which produces the rot in the berry also attacks the young shoots and leaves, but I am not yet convinced that this is so. (F. Lamson Scribner, Report on the Fungus Diseases of the Grape-vine, Dept. Ag. Bulletin No. 11, 1886.) But as to the last sentence of the foregoing, see Dept. Ag. Report, 1887, page 326, by the same author, as follows:

In Bulletin 2 of the Botanical division, page 40, grape-leaf spot disease was treated as distinct from black rot, for the writer at that time was not convinced of their identity, although the close similarity of the pycindial spores of Phyllosticta labruscoe with those of Phoma uvicola was, of couse, observed.

Special mention has been directed to this subject during the past summer, and as the result of extended field observations I have been forced to conclude that the grape-leaf spot fungus and the fungus of black rot of grapes is one and the same.

The brown spots upon the leaves figured and described in my report on the fungus diseases of the vine must, then, be regarded as simply the manifestations of the black rot on the foliage.

The fact of the identity of the leaf form with that occurring upon the berries is especially important in connection with the question of treatment, for black rot, like the downy mildew, must be treated preventively. As a rule, the black rot fungus first attacks the leaves some days, and often a week or two before the berries are affected. It may be sometimes observed on the foliage even before the vines have bloomed.

By watching the foliage, the vineyardist may be warned of the presence of this dreaded parasite in good season, and upon the first signs of its manifestations upon the leaves, he ought to begin the application of remedies or preventives, in order to protect the fruit. Evidence is accumulating that the sulphate of copper compounds possess some value in checking this disease. We have been assured, by some experimenters, that there was a very decided improvement in respect to black rot in vineyards treated with these preparations, compared with those not treated.

Downy Mildew.

Peronospora Viticola (De By).

Appears in more or less conspicuous white patches. Pale green or yellowish spots of irregular size and outline, appear upon the upper sides of the leaves as the first manifestation of the disease, corresponding points on the lower surface soon exhibit the outside development, the spore bearing filaments of the fungus, in the form of white patches that are very conspicuous on the smooth-leaved varieties of grapes. As the disease progresses, the yellowish spots of the upper surface assume a brownish hue, which gradually becomes more intense, finally having all the characters of completely dead and dried tissues. These spots may be quite small late in the season; the older leaves attacked are often covered all over with minute brown spots, which are usually sharply defined, being limited by the nerves in the leaf; again they may be so large as to nearly cover the whole surface, in which case the destruction of the leaf is quickly accomplished.

Under the final action of the fungus, the leaf becomes thoroughly dried and shriveled as if burned, and the tissues are particularly brittle. It very rarely occurs that the mildew itself occurs on the upper surface of the leaf. In severe cases, the growth of the fungus extends to the young shoots, although the conidia-bearing filaments do not appear, excepting upon the youngest and most tender of these, the action of the mycelium checks their further developments, and finally the tissues are killed.

The effect upon the shoots is often to produce dark colored, slightly depressed markings as a consequence of the sinking away of the tissues beneath. These markings are quite distinct from the deep and lacerated lesions of anthracnose.

It has been stated that the mildew only attacks the berries when they are quite young, and, so far as observed by the writer, this is true. The affected berries rarely attain more than one-fourth their full sizes, often remaining no larger than small peas; they soon turn brown, or, when the fungus fruits upon them, gray in color. There is thus produced a kind of "rot" which is popularly named "brown rot" or "gray rot."—F. Lamson Scribner's report, United States Department of Agriculture, fungus diseases of the grape-vine (page 7).

Anthracnose.

Sphaceloma ampelinum (De Bary).

On the shoots there first appear minute brown spots, a little depressed in the middle with a slightly raised darker colored rim or border. These spots soon increase in size, elongating in the direction of the striae of the bark, the central portion becomes more evidently depressed and usually takes on a grayish hue. The bark is finally destroyed, and, in severe cases, the woody tissues beneath appear as if burned or corroded so deeply sometimes as to reach the pith.

The appearance and action of the fungus on the leaves is similar to that upon the stems, and it is certainly very evident that where the diseased spots are numerous, and the action of the fungus proceeds without interruption, both shoots and leaves must succumb to the parasite. The intensity of the disease upon the shoots may cause the destruction of the young leaves, even when the latter are not directly attacked. On the berries, so far as my own observations are concerned, the severity of this disease has been especially manifest in its effects upon the fruit. * * * There is a small spot, grayish in the center, where the cuticle of the berry has been destroyed, with a dark-brown border. Previous to the bursting or rupturing of the cuticle, the entire spot is of a dark brown color, retaining a more or less regular rounded outline, and between the light colored central portion and the dark bordered line, there is developed a well defined band of bright vermillion. Finally, under the action of the disease, the berries begin to wither and dry up, leaving nothing, apparently, but the skin and the seeds. There is no browning of the tissues of the berry as in the case of the black rot, nor does the skin shrivel as in that disease, leaving prominent and very irregular ridges, but the circular spots first formed are easily seen and the colorings characteristic of the disease retained. A berry may be attacked upon one side when it is not more than one-half grown; it then becomes irregular in shape, the diseased part making further development, and it sometimes happens that this side cracks open, exposing the seeds, which are gradually forced out by the unequal growth of the berry.

The Powdery Mildew.

Uncinuls spiralis (Berkeley & Curtis).

The powdery mildew makes its appearance usually during the early days of June, and continues its development late into the autumn. Its entire growth is upon the outside of the invaded plant, no portion, excepting the minute suckers, or haustoria, which are said to penetrate the epidermal cells, ever entering within its tissues. It appears in dull, grayish-white patches, most conspicuous on the upper surface of the leaves, and when growing thickly on the young shoots or berries, its mycelium imparts to these organs a similar hue. It never has the bright lustrous, or frosty appearance that characterizes the downy mildew, and the livid brown or seemingly scorched blotches on the leaves that the latter fungus occasions are wanting, although in thin-leaved varieties of foreign vines, a discoloration takes place through the whole thickness of the leaf, visible at the points below the patches of fungus growth on the surface above. In a few instances I have seen the mycelial growth so dense upon the leaves as to give them the appearance of having been spattered and blotched with whitewash, the spots being a pure dead white. Below these spots, on the under surface, there were visible decided discolorations and a slight convexity or malformation, the lower layers of cells in the leaves having continued to grow, while the development of the cells near the upper surface was prevented by the action of the fungus. This mildew is also found on the lower surface of the leaves, but never to the same extent as upon the upper side, and as it is only in the latter part of the season that it has been observed there at all, its presence is doubtless due to an extension of growth from other parts, as from the petiole.

Upon the young and tender shoots the fungus is often particularly abundant, its action being to check their growth. Its presence on the older and half-ripened shoots is indicated by distinct but irregular brownish blotches in the epidermis. Sometimes the Uncinula appears during the season of bloom, and, coming on the newly expanded flowers, causes them to abort. Attacking very young berries, when these are no larger than shot or small peas, their growth is permanently checked. Cases have come under our observation where the Peronospora, the Uncinula, and the fungus of the black rot were all engaged in their work of destruction upon a single bunch of grapes. It is needless to say that the destruction was complete. Upon the older berries the presence of the powdery mildew is made evident, before the mycelial threads have obtained sufficient growth to become conspicuous themselves, by the minute brownish spots produced by the action of the suckers on the epidermal cells. These spots eventually become confluent, the epidermis dies or is so affected that it will no longer expand with the growth of the berry, and consequently bursts, first forming tiny then gaping tears, the result being the death and decay of the berry. Oftentimes the fungus spreads over only a small portion of the berry; this part ceases to grow and a much distorted or imperfectly formed fruit is the result. The distortions are often carried so far that the berries crack open, exposing the seeds. We sometimes find nearly full-grown berries completely overgrown with the mycelium of the Uncinula, so that the brown specks above mentioned, if present at all, are completely hid from view. These berries eventually become dry and shriveled, and finally drop off.

Grape-leaf Blight.

Cercospora viticola (Saccardo).

Lower and more shaded leaves more or less thickly covered with rounded or irregular brown spots, varying in size from one-twenty-fourth to one-eighth of an inch in diameter, with a clearly defined darker colored and slightly thickened or elevated border. The discolorations extended through the thickness of the leaf, but while the diseased areas on the upper surface were perfectly smooth there could be seen, with the aid of a pocket lens, on the under side, numerous projecting hair-like points. As the disease progresses the tissues of the leaf in the vicinity of the spots became affected, changing to a pale green or yellow, and finally the whole leaf perishes.

This blight, when prevalent, may cause considerable damage to the foliage, and consequently to the vine, but unless the season be a very wet one, it is not likely to do much damage, except, perhaps, in lower or damp situations or upon vines improperly cared for.

The form of this fungus above described is the only stage in its development yet known.

No remedies are known for either the "leaf-blight" or "leaf-spot" diseases, but it is very probable that the general treatment advocated for the downy mildew and anthracnose will have a direct tendency to limit their development.

White Rot.

Like the black-rot fungus, this produces minute pycnidia or spore conceptacles, which appear at the moment when the berries commence to ripen. These lie just beneath the cuticle, through which they finally burst, first appearing as shining rosy points, then white, and finally brown. When fully developed the pycnidia are surrounded by a thin membrane of a rather dark brown color. The ovid spores are borne upon the slender stalks or basidia, either simple or branched, which spring from a layer of very delicate tissue occupying the lower part of the pycnidum.

No remedy is known for white rot, but it has been observed here, and very generally treated in France, that where the vineyards have been treated with eau celeste, or the Bordeaux mixture, the disease was far less prevalent than in similarly located vineyards not treated.

Bitter Rot.

Accounts of this disease have been published in Comptes Rendus, September 12, 1887; Agricultural Science, volume I, page 210; Coleman's Rural World, October 13, 1887, proceedings New Jersey Horticultural Society, for 1887, page 114.

That which especially characterizes this disease in distinction from the black rot is that it begins its ravages at the time when the berries commence to ripen, and continues until their perfect maturity. Excessive humidity is even more essential to its development than that of the Physalospora. The importance of this malady is evident, for, under favoring conditions, it may destroy the fruit that has escaped the ravages of black rot. The fungus attacks the shots, the common peduncle of the branches and its ramifications, but it is upon the berries that its action is most conspicuous. A rosy discoloration, brighter on varieties with white fruits than on dark-colored sorts, is the first manifestation of the disease. This discoloration extends rapidly by concentric zones until the whole berry is involved, the berries, however retaining their original contour, or only appearing to be slightly wilted, and becoming even more juicy than is normal. Soon numerous, small, slightly elevated points appear over the surface, and in two or three days these little elevations, which are the points where the fungus is maturing its fruit, have completed their development. The berry then becomes shriveled, as in the case of black rot, but in a different fashion. The berry remains clear brown or deep purple in color, never becoming so black as in black rot, and the pustules which stud the surface are less numerous and less convex. In advanced stages the berries lose their hold upon the pedicles and fall to the ground at the slightest jar. Those destroyed by black rot usually remain strongly adherent and generally fall with their pedicles attached.

Bitter rot is most to be feared when frequent rains occur during the ripening period; but, like other fungus diseases of this class, it is sure to be most severe in poorly drained soils and on vines previously weakened by mildew. (Department Agriculture Report, page 324.)

Leaf Blight of the Strawberry.

The only disease of the strawberry that causes much damage is the leaf blight which is very prevalent in some years. The most efficacious remedy found for it has been the ammoniated carbonate of copper, sprayed on the vines after fruiting.

Orange Rust and Anthracnose of the Raspberry.

The raspberry has two troublesome diseases. One of the blackcap, orange rust, and one that attacks both the black and red, anthracnose. The former is to be dreaded from the fact that the only known remedy for it is to dig up all infested plants and burn them. The anthracnose which attacks both the blackcaps and the red varieties can be told by the blotched and cracked appearance of the canes and by the fruits drying up. This is being treated at this station by a number of fungicides, and at the present writing there seems to be no doubt but that Bordeaux mixture is having a beneficial action in preventing the spread of this disease.

Formulas for Fungicides.

Simple solution of copper sulphate.— Dissolve one pound of copper sulphate in twenty-five gallons of water.

Bordeaux mixture.— Dissolve six pounds of copper sulphate in sixteen gallons of water. Slake four pounds of lime and add six gallons of water; when cool, mix by straining the lime mixture through coarse cloth. This makes twenty-two gallons of mixture.

The formula for Bordeaux mixture, as stated on page 616 of Bulletin 35, August, 1891, gives what is commonly known as "Standard Bordeaux." During the season of 1892, Bordeaux from one-half to one-third the strength of the standard solution has been used at this station. In other words, the mixture of six pounds of copper sulphate and four pounds of lime diluted to forty-four gallons, makes Bordeaux one-half the standard strength; and if diluted to sixty-six gallons, it makes Bordeaux one-third standard strength. Grapes, apples, pears, plums and beans have been sprayed with the Bordeaux one-third strength, while the Bordeaux one-half strength has been applied to raspberries and potatoes.

In mixing Bordeaux the trouble of weighing the lime may be obviated by use of the following simple test, and a tub of fresh-slaked lime can for convenience be kept on hand: Add milk of lime to the solution of copper sulphate and test it with two or three drops of potassium ferro-cyanide in solution. If enough lime has been added the potassium ferro-cyanide will not change color, but if not enough lime has been added the pottasium ferro-cyanide will turn to a dark reddish-brown color. By adding gradually more lime and repeating the test with potassium ferrocyanide, it is easy to discover when there is enough lime in the mixture. Since an excess of lime does no harm there is no danger of adding too much. Bordeaux must be kept constantly agitated when spraying in order to prevent clogging the nozzle and to insure uniform strength of the application.

Geneva, N. Y., September, 1892.

Ammoniacal solution.— In an ordinary water pail dissolve five ounces of copper carbonate in three pints of aqua ammonia having a strength of twenty-six degrees. If three pints of ammonia are not sufficient to completely dissolve the copper, add enough to bring about this result. Dilute to fifty gallons with clear water.

Method of Applying the Remedies.*

It is of the utmost importance that the remedies reach all the green parts of the vine. These do not need to be drenched; on the contrary, they only require a thin film of the fungicide to protect them against infection. It is only possible to obtain this even distribution by means of careful work and the use of suitable spraying pumps and nozzles. It is next to useless to resort to watering cans and old brooms, as many do, although this treatment is perhaps better than none at all. At the present time every gardener, farmer and fruit grower should own a spraying machine of some kind. There are so many in the market and they can be obtained so readily that it is useless to mention any particular styles. Where one has only a few vines, one of the ordinary brass syringes, sold by florists for one dollar and a half, will answer. For medium-sized vineyards, i. e., ten to twenty acres, the knapsack form of pump, provided with spraying nozzles, is a most excellent machine. These pumps are now largely used in vineyards where the ground is uneven or where it is difficult to get in with the large horse-power machines. The prices of these pumps, complete, range from fourteen dollars to twenty-five dollars; they are sold now by nearly all reputable agricultural implement dealers. For large vineyards, where the ground is level, large machines may be used. Machines of this kind are made which will spray an acre in thirty minutes, requiring the labor of two men, two horses and a boy to manage them.

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* U. S. Department of Agriculture, Farmer's Bulletin No. 4, by B. T. Galloway.

A very convenient machine, suitable for large vineyards, can be rigged up at home, the materials necessary being a barrel, a strong force-pump, having two discharge pipes, two pieces of three-quarter-inch hose, each sixteen feet long, and two spraying nozzles. This outfit, complete, need not cost over fifteen dollars. The apparatus is placed in a wagon or cart, which is drawn by a horse. A boy manages the horse, while one man remains in the wagon or cart and works the pump; two more men follow behind, using the nozzles and spraying two rows at a time. When such a machine as this is used it will keep two men busy preparing the fungicide.

Cost of the Treatment.

The cost of the treatment will depend, in a large measure, upon the kind of spraying apparatus used and prices paid for chemicals. With a good spraying machine and chemicals obtained at wholesale figures, it is safe to estimate the total cost of treating, say an acre of bearing grapes with the principal remedies six times, as follows:

Bordeaux mixture, per vine, three cents.

Ammoniacal solution, per vine, two cents.

Bordeaux mixture, two sprayings; ammoniacal solution, four sprayings, per vine, two and a half cents.

Additional expense of spraying with simple solution of copper sulphate, per vine, one third cent.

These figures are based upon the fact that the chemicals are purchased at the following usual wholesale prices:

Copper sulphate, crystals, per pound	$0 06
Copper carbonate, per pound	40
Aqua ammonia, twenty-six degrees, per pound	08
Lime, per bushel	30

It requires, on an average, three quarts of liquid per vine for the season's work of six applications. Taking the foregoing as a basis, we will, to be more explicit, estimate the cost of treating an acre of bearing vines, assuming that the rows are ten feet apart and the vines are eight feet apart in the row. This will give us 544 vines to the acre. Multiplying 544 by three-fourths will give us 408, the number of gallons required to treat an acre. Four hundred and eight gallons of the Bordeaux mixture will cost as follows:

Copper sulphate, 111 pounds, at six cents	$6 66
Lime, seventy-four pounds	50
Total	$7 16

With an ordinary knapsack sprayer it will require ninety-two hours of labor to make six applications in the proper manner. Estimating this labor at ten cents an hour we have nine dollars and twenty cents. Adding this to the cost of chemicals, brings the total up to sixteen dollars and thirty-six cents. This amount, divided by 544, the number of vines to the acre, gives practically three cents. These figures, we believe, will enable any one to answer such questions as may arise in connection with this part of the subject, taking it for granted that the labor for each liquid is the same.

Insects and Remedies.

The apple.— Attacking the trunk, is the flat-headed apple-tree borer (Chrysobothris femorata, Fabr.) and the round-headed apple-tree borer (Saperda candida, Fabr.). The eggs of the flat-headed borer are fastened by the female beetle under the loose rough bark, or in crevices on the trunk, and sometimes the larger branches of the tree. In this climate they are generally deposited in the latter part of June or first of July. They soon hatch, and the young worms begin burrowing through the bark, and when the sap wood is reached, if the tree is small, they often girdle it completely. In larger trees they burrow deeper into the trunk as the larva grows stronger, returning to the sap wood again, where, between it and the bark they complete their transformation to the perfect insect. They then eat through this thin layer and escape to continue the work of destruction.

The round-headed borer deposits its eggs single on the outside of the tree, near the roots. It then hatches and works its way into the tree in much the same way as the former, but remains longer in the sap wood before tunneling into the heart of the tree. It is also longer completing its cycle from larva to beetle. The time given by most entomologists is three years.

Remedies.— A wash of soft or whale-oil soap, made of about the consistency of common paint, by adding washing soda and water, and applied with a broad brush to the trunks and large branches of the trees is a preventive; as they do not like to deposit their eggs on this viscid substance. A little crude carbolic acid makes the wash still more offensive to the beetles. After the borer has entered the tree, the only effectual remedy is the knife and a short piece of wire. The trees should be examined the latter part of August or early autumn, and where there are indications of the borer, cut through the bark, and if the larva is not found probe with the wire in the channels made by the borer, and he will usually be destroyed.

Attacking the branches.— The woolly louse of the apple. This insect is often found at the base of apple trees and around suckers growing from the root, also on the trunk, and at the base of the limbs, and in wounds made by pruning accident. They gather in masses, having the appearance of cotton, or at a little distance may give the impression that the tree has been whitewashed.

Remedies.— The wash recommended for the borer, if applied with a stiff brush, will be found beneficial. Kerosene emulsion is also effectual.

The oyster-shell bark louse.— This insect is more common in the northern United States and Canada, but several inquiries in regard to it have been received the past year from this State. It appears in scales resembling somewhat the shell of an oyster, brown in color, and distributed thickly over the branches and trunks of the trees, often on small trees nearly covering the entire surface; where so numerous they seriously affect the vigor of the trees, and, in case of small trees, sometimes cause death.

Remedies.— The scale coverings serve as a protection to the eggs which are deposited under them; often to the number of 100 under a single scale. It also protects the young louse while developing. If the trees are gone over with a very stiff brush or old broom, many of the scales will be removed and the eggs destroyed. After this use a wash, as recommended for borers, or the washing soda can be used alone, by dissolving from one-half to three-fourths of a pound in a pail of water, and spraying or syringing it on the trees. In the spring when the eggs are hatching, which, in this climate, will be in the month of May, or early in June, a spray of kerosene emulsion, or sour milk and water with a little kerosene added, will also prove effectual.

On the leaves.— The insects most injurious to the foliage of the apple, are the apple tree tent caterpillar, the forest tent, the yellow necked and the red-humped apple tree caterpillars; fall web worm, the canker worm, the leaf rollers, folders and bud worms, the apple-leaf bucculatrix and the aphis.

Remedies.— The caterpillars and web worm can be easily controlled by tearing out the nests, when the worms are massed in them, and crushing, or by spraying the nests and adjacent branches with Paris green and water. Leaf rollers, folders and bud worms can be controlled by the use of the spray also. The canker worm is a more formidable enemy, but, with a thorough application of proper and simple remedies, it can be subdued. As the female moth is wingless, its movements are necessarily very slow, and it can be easily captured while crawling up the trunk of the trees by bands of paper or thin cloth tied securely around the tree and smeared on the under side with coal tar or printer's ink. These bands should be taken off and the coal tar or ink renewed as often as it becomes dry. A large percentage of the larva of the moth that escapes these traps can be destroyed by spraying the trees with Paris green and water. If the larva have been permitted to feed on the trees and the caterpillars enter the ground to complete their transformation into the perfect insect, the ground should be worked very thoroughly around the trees to the depth of about six inches, as, by this means, many of the tender pupa will be crushed.

The apple-tree aphis (aphis mali, Fabr.).— This little pest appears so early in the season, when the trees are sending out the first tender leaves, that much greater injury is done the trees from the attacks of the louse, than is usually recognized. They suck from the tender foliage the sap contained in the leaves, causing them to curl, and when badly infested, to wither and drop off. They should, therefore, be destroyed as quickly as possible after their appearance.

Habits of the Aphis.— In order to successfully deal with plant lice, it is well to keep in mind some of the main points in their life-history. The first to be considered is the eggs. These can be found during the winter attached to the branches, and in the crevices of the bark, and especially around the buds, where they were deposited the previous fall. They are oval in shape, shiny black in color. They can be seen with the eye on close inspection, but with the aid of a common magnifying glass they are easily detected. As soon as the buds begin to expand in the spring these eggs hatch out and the lice begin to feed by inserting their beaks and drawing the juice from the tender foliage.

The first broods of the aphis are all females. These mature in ten or twelve days and commence the reproduction of living young. These broods again mature in about the same length of time, and continue to multiply their species at about the same ratio. This continues until the aphis becomes simply innumerable. Occasionally winged females appear and by distributing themselves on adjacent trees, form new colonies. Toward the latter part of the season males begin to appear and a new stock of eggs are deposited by the females for the coming year.

Remedies.— The first should be preventive. By using a wash for the trunks, and larger branches, applied with a stiff brush, the eggs deposited on these will be crushed or otherwise destroyed. Any of the alkaline washes, some of which have been referred to, will answer the purpose. For the smaller limbs, not conveniently washed, it is necessary to resort to spraying with some substance that will penetrate the egg covering. Kerosene emulsion has been used with good results for this purpose, and also for spraying the trees later in the season to destroy the remnant hatched from eggs that were not reached by the first application. A convenient formula for the emulsion is one quart of soft, or one-quarter of a pound of hard, soap, dissolved in two quarts of boiling water. After the soap is all dissolved stir in one pint of kerosene, while the mixture is still hot. The whole should then be thoroughly churned by passing the mixture through a force pump until a perfect emulsion is formed. When ready to use stir in enough water to make two gallons. In order to insure success in the use of the remedy it should be applied on the first signs of the appearance of the lice. As the emulsion kills by contact better results will be obtained before the leaves curl, thereby offering protection to the aphis.

Injury to the fruit.— The insects that work the greatest injury to the fruit of the apple are the codling moth, the apple curculio and the apple maggot.

The codling moth begins to make its appearance about the time of the opening of the apple blossom. As the moth works at night it is seldom seen, but the work of the destructive little pest is too well known to need description. The egg is laid singly, generally in the calyx of the fruit as it is just forming. It hatches in about a week and the worm at once begins to eat its way into the fruit. In about four weeks the first brood attain to maturity and the fruit begins to fall to the ground. The worm generally escapes before the fruit falls, but not always. In either case the worm generally finds its way to the trunk of the tree, where it conceals itself under the roung bark, and spins a tough silken covering to which are attached pieces of bark or other debris that may come in their way for the purpose of concealment. The change to the chrysalis takes place in about three days, and in about two weeks the moth from the first brood escapes to continue the work.

The apple curculio.— This is a beetle, a little smaller than the plum curculio. It is dark brown in color, and can be distinguished from the plum curculio by its long, slim snout, which in the female is as long as the body and in the male about half the length. In neither can they be folded under the body as can those of many of the other species of curculio.

It is a native American pest, and was originally confined to the wild crabs and haws. It is single brooded and can be found within the fruit at all stages of development, from the middle of June to the middle of September. It injures the fruit by making round holes with its snout, in feeding, and also in preparing a place to deposit its eggs.

Remedies.— Both Paris green and London purple are used to destroy the codling moth. Our experiments with these poisons lead us to favor Paris green as a remedy. It is of greater specific gravity and does not remain in suspension in water as long or as well as London purple, but it is more uniform in its composition and can be used with less danger to foliage. We have found one pound of the poison to 200 gallons of water strong enough for the first spraying, which should be made as soon as the blossoms have all dropped from the trees. This is to be repeated in from seven to fifteen days, depending on the amount of rainfall. After this the strength can be reduced to 250 or even 300 gallons to the pound. The number of sprayings will depend upon the weather to a great degree. In a moderately dry season, they should be ample. This treatment should also answer largely for holding in check the apple curculio. Where the trees are small, jarring may be practiced the same as for the plum curculio, in addition to the above.

The apple maggot.— This little pest is a small footless maggot pointed in front and cut off squarely behind. It tunnels in the pulp of the apple, little winding channels with now and then a round excavation about the size of a pea. The perfect insect is a small fly which lays its eggs in the fruit during the month of July, and is partial to summer and fall varieties. It is also often found in fruit after it is stored in the fall and winter, and is becoming quite a serious pest in many parts of the country, and especially in sections of New York State.

Remedies.— Owing to the season, and the mode of insertion of the egg by the fly into the flesh of the fruit, it is not possible to destroy the maggots by the use of poisons. The only remedy so far known, is to destroy in some way the fruit. As the fruit generally ripens prematurely and falls to the ground, this can be accomplished by pasturing hogs or sheep in the orchards, confining a sufficient number of animals to keep the fruit picked up clean as fast as it drops from the tree, so that no chance may be given the maggot to enter the ground for pupation.

Insects injurious to the pear.— A whitish grub resembling the peach-tree borer attacks the trunk of the pear. The remedies given for the apple-tree borer can be employed in this case as well.

Attacking the leaves.— Many of the insects described as feeding on the foliage of the apple, attack the pear. When these appear, the same remedies can be used as recommended for the apple. In addition to these, the leaf slug often appears in numbers sufficient to endanger the life of the tree. They can be easily and quickly checked, by dusting the trees with fine dry earth or air-slaked lime. We have used for this purpose an insect gum manufactured by Leggett & Brother, New York city. We have found it very effectual and convenient in the application of dry substances.

Injury to the fruit.— The codling moth, which is so destructive to the fruit of the apple, is also very liable to attack the pear, The plum curculio and the quince curculio also injure the fruit to quite an extent. The same remedies can be used as described for other fruits.

The plum.— The peach and apple-tree borer injure the plum and can be prevented as already described.

For the insects that injure the foliage, Paris green and water can be used in spray, being careful to use the mixture properly diluted, never stronger than one pound of the poison to 200 gallons of water. Great care should also be taken to have the liquid kept in close motion, so that the Paris green may be kept in suspension in the water; otherwise the last of the mixture in the tank will be double, or triple the strength of that first applied, and will be sure to injure the foliage.

For combating the curculio, which is the real bugbear to the plum grower, the mixture mentioned above is used and phenomenal results are reported by many experimenters. Others have not succeeded as well, and we believe that in seasons of heavy rain-falls and in cases of severe attacks, where the beetles appear in unusual numbers, jarring should be combined with the use of poisons, and that better results will follow.

The peach.— The peach-tree borer is a very dangerous enemy of the peach, and, unless careful watch is kept, will entirely destroy an orchard before the fact of its presence is realized. The best remedies are the use of the knife late in autumn or early in the spring, and the preventive washes as recommended for the apple.

For insect attacks on the foliage and fruit, the same remedies can be used as on the plum; reducing the mixture to 300 gallons and equal precautions should be taken to guard against injury to the foliage.

Insects Injurious to the Strawberry.

The insect enemies of the strawberries are numerous, although but few of them cause serious injury. Two of these pests that attack the roots of the plant are strawberry root-borer and the strawberry crown-borer. The first is a small caterpillar nearly half an inch long and of a reddish pink color. This borer eats its way in irregular channels through the crown, often tunneling in various directions, eating its way to the surface. This caterpillar burrows into the heart of the plant and remains in one of the chambers during the winter. In June it changes into a small reddish-brown chrysalis either in one of the cavities excavated in the crown or among decayed leaves or rubbish. The moth which escapes in July, is very small and of a dark gray color. This moth lays an egg on the crown of the plant late in July or early in August, which soon hatches and the caterpillar begins its depredations. The crown-borer larva is a grub of about one-fifth of an inch long, white, with a honey-yellow head. This grub eats the substance of the crown and is very destructive. The remedies recommended for these borers are dusting the plants with air-slaked lime or hellebore; or spraying with Paris green. But as these borers feed on the inside of the plant and when first discovered have usually ruined the plants the best method is to dig up all infested plants and burn them. The insects attacking the leaves of the strawberry are the following: The strawberry leaf roller, the neat strawberry leaf roller, the smeared dagger the cut-worm, the strawberry saw-fly, and several others. Only those mentioned are, however, considered numerous enough to cause much damage, and the numerous remedies usually used are the same for all, except the cut-worm, viz.: Powdered hellebore and water in the proportion of an ounce to the pail full; Paris green and water, one teaspoonful to two gallons of water. Either of these remedies have been proven of benefit, and if not used while the fruit is on the plants, they will cause no injury.

Insects Injurious to the Raspberry.

The insects attacking the raspberry are both numerous and troublesome, especially those attacking the canes. The first one to be described is the raspberry root-borer. This differs from the raspberry cane-borer in having sixteen legs, and resembles the peach-borer in its several stages. The moth of this borer has a body of black banded and marked with golden yellow. Its wings when expanded will measure from three-quarters of an inch to an inch across. The eggs are deposited by the female during the hot summer weather on the canes a short distance from the ground. The young larva when hatched eats its way through the cane to the center where it feeds upon the pithy substance. It gradually channels the cane to the root, in which it spends the winter, forming before the spring cavities of considerable extent. As the spring opens, it makes its way up again usually through the interior of another cane to the height of five or six inches, where the larva, preparing for the exit of the future moth, eats the cane in one place nearly through, leaving only the skin unbroken. When full grown it is about an inch long, of a pale yellow color, with a dark brown head. When the time approaches for the moth to escape, the chrysalis which the borer has become wriggles itself forward and pushing against the thin skin ruptures it, and forcing its way through the opening, waits the escape of the moth. The injury done to the root is often followed by the death of the canes, which is sometimes incorrectly attributed to being the result of severe cold of winter. Little can be done with the pest other than uncovering the roots and cutting out the invested portions. The raspberry cane-borer in its larva state lives in the center of the cane, burrowing downward and often causing the death of the cane. The female moth deposits her egg in June by girdling the young cane near the tip in two places, one ring being about an inch below the other and between the rings the cane is pierced and an egg thrust into it. The presence of this enemy is early detected by the sudden drooping and withering of the tips, and by removing all the withered tops down to the lowest ring so as to insure the removal of the egg these insects may be kept under.

The tree cricket.— Probably this is the most troublesome insect affecting the canes of the raspberry. The female cricket lays her eggs in the autumn by thrusting her long ovipositor obliquely more than half way through the cane, and down the opening thus made she places an egg. A second one is then placed alongside of the first and so on until from five to fifteen eggs are placed in a row. An irregular row of punctures indicates the presence of the eggs. These punctures weaken the canes, causing them to break on the slightest provocation. The infected canes should be cut out and burned. The canes can often be told by a partial splitting, which indicates the presence of these eggs. These crickets also injure the canes of the blackberry. The raspberry saw-fly, the raspberry apatela and the raspberry plume moth all attack the leaves, and like all other leaf-eating insects can be subdued by the application of hellebore and water or Paris green.

Insects Injurious to the Currant.

The insects attacking the currant are the imported currant-borer, the American currant-borer, the imported currant worm, the native saw-fly and several others of more or less importance. The two borers are, in some sections, a serious impediment to successful currant culture. The moth of the imported borer lays its eggs in June, singly, near the buds, where, in a few days, they hatch into small larva, which eat their way to the center of the stem where they burrow up and down, feeding on the pith all through the summer, enlarging the channel as they grow older, until at last they have formed a hollow several inches in length. When full grown, the larva is whitish and fleshy, with brown head and legs, and a dark line along the middle of its back.

When the hollow stems do not break off, indications of the presence of the borer may be found in the sickly look of the leaves and the inferior size of the fruit.

The only remedies are to cut out and burn all hollow canes, or to capture and destroy the moths who are sluggish in the cool of the morning. The American currant-borer differs from the above in being of smaller size and without feet. Sometimes as many as eight or ten of these borers are found within one cane. The cutting and burning of the infested stalks is recommended in this case as for the imported borer. The insects attacking the leaves of the currant are the imported and native currant worm and the currant span worm. There are numerous others that commit depredations of minor importance, but these three are all that are likely to be troublesome. The first two can be kept in subjection by the use of powdered hellebore in the proportion of an ounce to a pail full of water, sprinkled or sprayed on the bushes at their first appearance. For the span worm, if hellebore is used, the liquid should be made three times the usual strength. Paris green is more certain and effectual where there is no objection to its use.

Black Knot of Plum and Cherry.

Plowrightia Morbosa (Schw.) Secc.

The "Black Knot" is a disease of plums and cherries which causes the formation of a hard, rough, black, wart-like surface on an enlarged or distorted outgrowth of the bark. It is not a new disease. Its pernicious character has long been known. Nearly fifty years ago Mr. A. J. Downing said of it* that "in some parts of the country it is a most troublesome disease and has even destroyed the whole race of plum trees in neighborhoods where it has been suffered to take its course." Could he have looked into the future and seen the plum industry literally wiped out of existence by black knot not only "in whole neighborhoods" but in whole counties along the famous Hudson river valley, doubtless the strong words quoted above would have seemed to him a faint statement of the destructive character of this disease. Although Downing did not know the real cause of the trouble, yet he urged upon his readers the proper remedy, namely, the destruction of all affected parts by fire; but he advocated burning as early as possible in the spring, while, as will be shown hereafter, the proper time is just after the leaves fall. He also gave the following sound advice: "It will be necessary to prevail on your neighbors, if they are near ones, to enter into this plan, or your labors will be of little value." Had his advice been followed and the work of burning all black knot wherever found been systematically undertaken at that time and enforced by wise laws, supported by strong public sentiment in their favor, there is little reason to doubt that in the favored localities along the Hudson river commercial plum orchards might have been paying good profits for the last twenty years instead of presenting as they do discouraging pictures of loss and decay.

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* Fruits and Fruit Trees of America, p. 269.

A reliable nurseryman recently made the statement that "Twenty years ago there were shipped from Geneva to the Hudson river country 20,000 to 25,000 plum trees annually, where now few or none are sent, and the reason for this loss to the nursery trade is fully accounted for by the fact that the black knot has become so destructive that no one dares to invest his money in plum growing in that section."

The following brief accounts of destruction of plum trees by the black knot are sufficient in themselves to show that this disease must be placed on the list of serious public pests and like the glanders or pleuro-pneumonia is a fit subject for special legislation designed for its eradication or control.

Mr. Geo. T. Powell, of Ghent, Columbia county, N. Y., who is director of the Department of Farmers' Institutes of the New York State Agricultural Society, writes as follows:

"The black knot has swept the plum growing interest nearly out of existence in the Hudson river valley. When the orchards were being cut down and planting had ceased I put out an orchard of 1,000 trees and for seven years I successfully kept it off. Each year there would be some formation, but we very persistently kept it off. Last spring there was none to be seen on my trees when they were in bloom, having taken every particle off very closely. On the first of September every portion of the trees was completely covered and the entire tops of all trees will have to come off.

So great was the attack that when I discovered it I had to abandon all efforts to take it off. Even the twigs upon which the fruit had set were so enlarged by the knot that the fruit on them was deformed.

We had had three wet seasons previous to 1891, and while 1891 was quite dry, the conditions had been favorable for a great development of the fungus and the attack exceeded anything I had ever known. There were old trees adjoining my farm from which I think the trouble was spread over my orchard. My orchard is highly cultivated and fertilized, but I notice that uncared-for trees were as badly effected in this locality as mine were."

The following statements kindly furnished by Mr. P. Groom Brandow, of Athens, Greene county, N. Y., indicate the former extent and value of the plum industry in that region and its total devastation by the black knot.

He states that, beginning at Cedar Hill, about four miles below Albany, the plum district included a belt about three miles on each side of the river and extended southward about thirty-six miles to Germantown. He began setting plums for a commercial orchard in 1861, and at one time had 6,000 trees. Two of his neighbors each had about 2,000 trees, and most of the farmers went into the business to a greater or less extent.

It was no uncommon thing for a steamer to carry from 100 to 500 barrels of plums to New York at one trip. For four days' picking in one week, he received $1,980. In 1884, he netted $8,000 from his plums, and the next year he rooted out over 5,000 trees on account of the black knot. From twenty-five hundred young trees, two to three years old, left at that time, he thinks he has not yet realized over $250.

One instance is cited of a young orchard set within a few hundred yards of an old orchard that had been destroyed by the black knot, and within two years the young orchard had to be rooted out on account of the same disease.

Mr. Brandow further says that he knows of but one man who has set any plums within the last six years, and this orchard is a failure. The knot became the most destructive about 1869 and has continued its ravages till the whole plum industry in this region is practically wiped out of existence by it.

Mr. Brandow is in his seventy-fourth year. His whole life has been spent on the old homestead and as far back as he can remember, the knot has infested their plum and cherry; but when the trees were ruined they were pulled out and new ones set again. He thinks that at least four times in his remembrance he has seen these epidemics of the black knot come and go.

When the disease began to attack his trees about the year 1870, he commenced cutting out the knot, and continued the warfare twelve or fourteen years and believes that he could have controlled it but for his neighbors' trees which were infested with the disease.

As it was, his orchard was the last to go down. He says he did not practice burning the knots, but now thinks this was a great mistake. He would not advise any one to set trees in a locality where there are old plum or cherry trees covered with black knot.

At a meeting of the Western New York Horticultural Society, held in Rochester, January 27, 1892, the following resolutions were unanimously adopted:

Whereas, The interest we here represent involves expenditure and a large outlay of capital for years before any adequate returns are received; and

Whereas, The risks attending the growing of fruit from the depredations of insect life and fungoid diseases are so rapidly on the increase, as to be a source of the greatest anxiety and alarm to all engaged in the business; and

Whereas, At this time there is great reason to fear that the total extermination of the plum and cherry orchards of the State may follow the rapid spread of one of these diseases, which science has demonstrated may be arrested in its destructive work by the enforcement of a proper law, such as has already been enacted for stamping out the disease in peach trees known as the peach yellows; now, therefore,

Resolved, That it is the unanimous sense of the fruit growers in this meeting assembled, that it is of vital importance to them and their interests demand that the Legislature of this State shall, without delay, enact such a law as shall, in its enforcement and execution, thoroughly and effectually exterminate that infectious and incurable disease known as the black knot.

Mr. S. D. Willard, of Geneva, was appointed a committee to draft such a law and present it to the Legislature. At the present writing, the law has been introduced into the Legislature and will undoubtedly be passed.

It is believed, therefore, that a bulletin, giving the life-history of the fungus which causes the black knot, although the facts presented are not new to science, will be especially valuable at the present time, because there are yet many persons interested in plum culture who do not realize the very dangerous and destructive character of the disease, and who have no definite idea of its cause and the means by which it rapidly spreads from tree to tree.

A more general understanding of the reasonableness of the legislation referred to, and of the importance of vigorously following its provisions, will undoubtedly insure the hearty support and thorough enforcement of this law.

Cause of the Disease.

It was formerly believed that black knot was produced by some gall insect, and it is not strange that this opinion prevailed on account of the gall-like character of the knots and the fact that they are frequently infested by insects. Some believed it to be the work of the curculio; others thought that it was not the curculio, but some other insect or cause that produced the knots. But several years ago Dr. Farlow published in the First Annual Report of the Bussey Institute the results of his investigations, which proved conclusively that the black knot is caused solely by a parasitic fungus which grows within the bark, and which is now known to science by the name of Plowrightia morbosa.

It is recognized as growing on cultivated cherries and also on the wild red or yellow plum (Prunus Americana), the Chicasaw plum (P. Chicasa), the chokecherry P. Virginniana), the wild red cherry (P. Pennsylvanica), and the wild black cherry (P. serotina).

It is commonly most destructive to the plum, but also seriously attacks the cherry. Dr. Schweinitz mentions an epidemic of black knot which destroyed the cherry trees at Bethlehem, Penn., in 1790, and in various parts of the country to-day the disease seems to be almost if not quite as bad on cherry as on plum.

External Characters

The external appearance of the mature form of the black knot is generally well known. It appears at this stage as a rough, wart-like excrescence or distorted outgrowth from the bark of twigs and branches and, in severe cases, may extend along the trunk for several feet.

Figure IV represents a mature knot on a small twig, and figure V is from a photograph of a young tree showing the upper

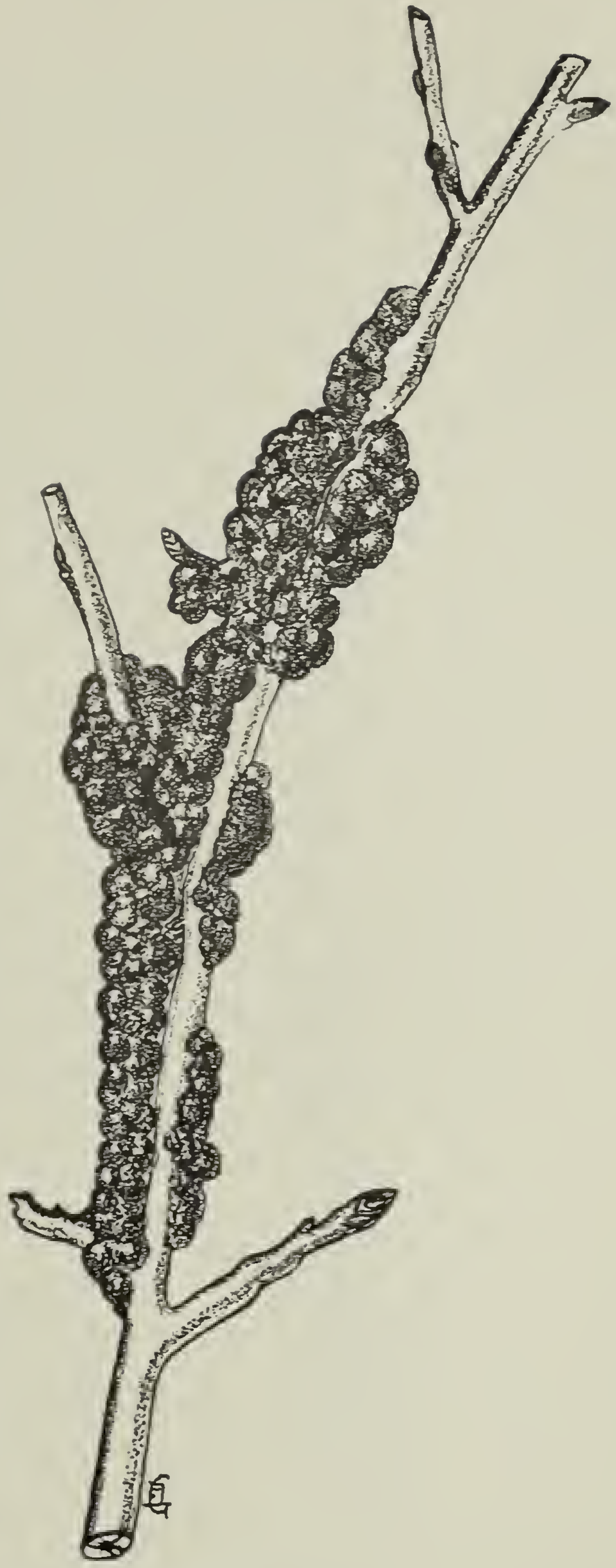

FIG. IV.—An old knot (natural size).

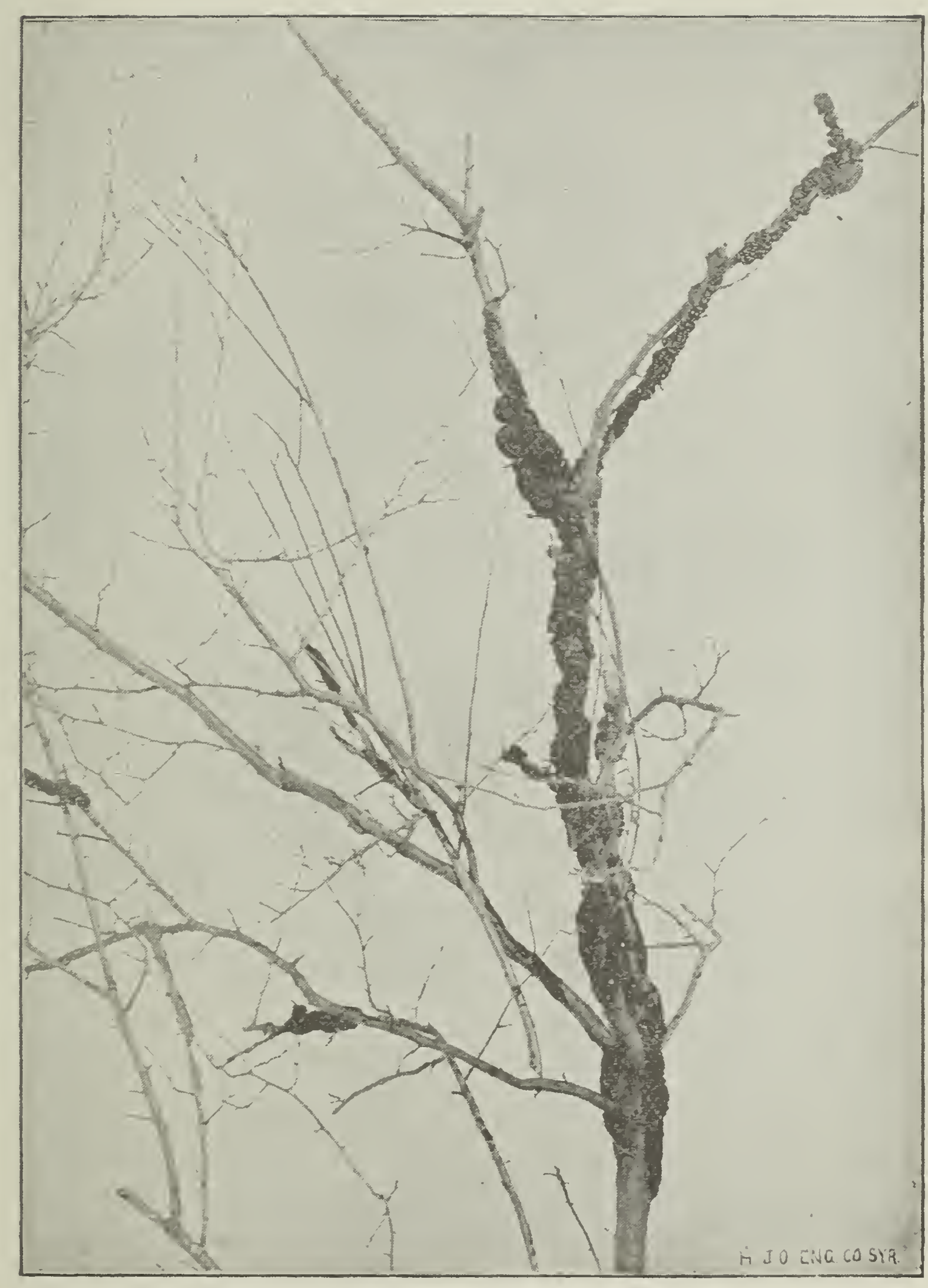

FIG V.—Portion of young tree badly affected with black knot (from a photograph)

part of the trunk nearly covered with the knot, which has checked its upward growth and caused the large development of the branches at the side. In many places knots have formed on these branches also. The fungus may appear on any part of the tree above ground, and no portion of either trunk or branches is exempt from its attacks.

Botanical Characters.

The first outward sign of the formation of a new knot is seen in a swelling of the tissue within the bark, either in the fall or during the growing season of the tree. The swelling increases till the bark is ruptured, and, as shown in figure VI, over the surface thus exposed, the fungus sends out numerous threads (hyphae) which produce a velvety appearance and are of an olive green color. Microscopic examination of the velvety surface reveals multitudes of newly formed and forming spores borne on these upright threads. A forming knot of this kind is shown in figure VI.

These spores (conidia) are called summer spores. When full grown they drop off from the supporting threads, and when carried by winds, insects or other agencies, to another host plant, under favorable conditions they may start growth and form a new center of disease from which in time other trees may also be infested and thus spread the disease from tree to tree and neighborhood to neighborhood.

Figure VII shows a few of the threads of the velvety surface above mentioned and also the outlines of the cells of the underlying tissue. At the extremities of some of the threads are seen the small oval summer spores. Figures IV, VI, VII, VIII and IX were kindly furnished by Dr. B. D. Halsted of the New Jersey Experiment Station.

The wonderful provisions for the reproduction of its kind are not ended by growing a crop of summer spores. After a time the production of summer spores ceases, the velvety threads die away and the surface of the knot becomes hardened and gradually changes in color to dark brown and finally to black.

Late in the fall the surface of the knot appears to be covered with pimples visible to the naked eye. These pimples are the outside covering of a tiny spherical case which may be called a spore case (perithecium). A slice across the pimpled surface with a sharp knife or razor will frequently show the white contents of the spore case visible to the naked eye. Such a section much enlarged is pictured in Figure VIII.

The outside rows of cells form the black hard covering of the spore case just referred to, making a hollow sphere within which are developed the winter spores. These winter spores ripen inside of long colorless sacs (asci) well shown in Figures VIII and IX, and each sac when matured contains eight spores (ascospores). A microscopic examination of one of these spore cases in the fall discloses the fact that the winter spores are not yet formed.

It has been found that they do not develop till winter and that they become mature and are capable of germination in February or March. Figure IX shows two spore sacs like those seen in Figure VIII but more highly magnified. The spore sacs rise from a mass of threads which line the inner walls of the spore case; mingled with the projecting spore sacs are numerous sterile threads like the two shown in the figure, which do not bear spores. Eventually the spore sacs break away and the spores which they have borne escape from the spore case and are carried by the winds or other agencies to infect new localities or other parts of the tree on which they have developed.

In figure IX is also seen a single spore free from the spore sac. It has begun to grow and has sent a germinating thread from each end of the spore. One of these threads has already branched. Under favorable conditions these threads grow quite rapidly and the interlacing branches form a perfect mat of threads (mycelium). When growing within the bark of the plum or cherry trees these threads absorb their nourishment from the surrounding tissue and produce in succession the swelling and rupture of the bark, the formation of summer spores, the development of the black knot, and lastly within the black knot are formed myriads of the winter spores.

Both summer and winter spores are produced in great numbers, really in incalculable numbers, and by their agency the disease assumes an infectious character and spreads from tree to tree and

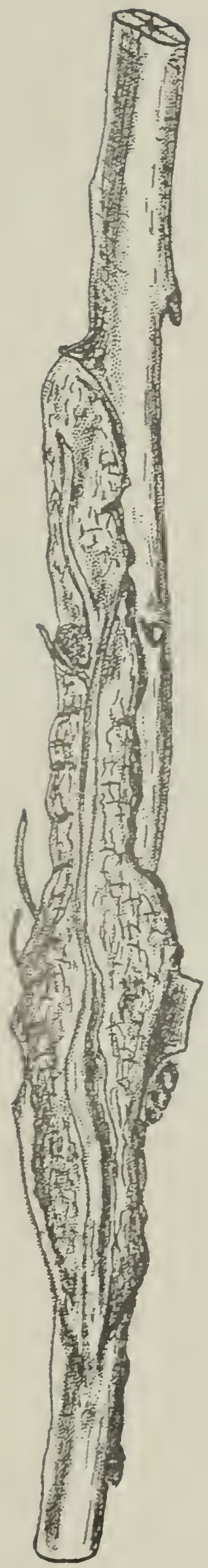

FIG. VI.—A forming knot

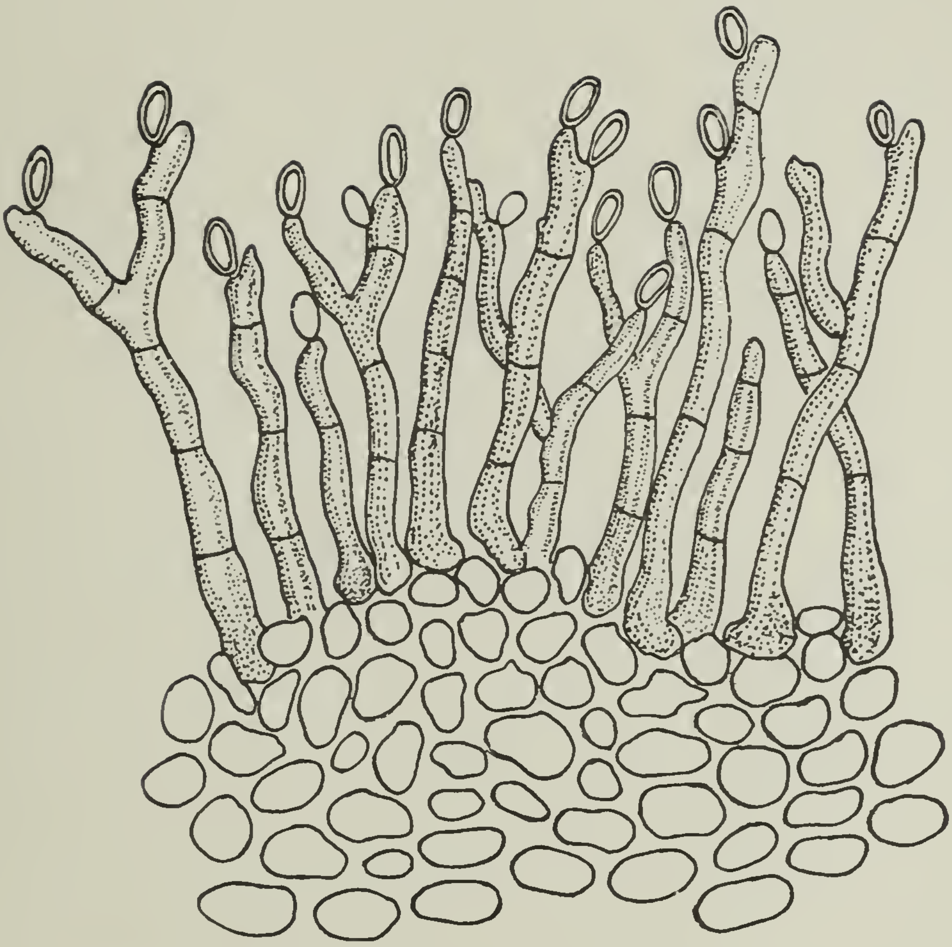

FIG. VII.— A portion of a young knot, highly magnified.

from community to community. The fungus is perennial and, having once gained lodgment in a tree continues to form new knots and to develop the succession of summer and winter spores year after year.

Remedies.

Is it not plain, therefore, that the best way to deal with thoroughly infested trees is to cut them down and burn them at once thus insuring the destruction of the spores before they spread the disease any further? Trees not badly infested may be treated by cutting off affected branches some distance below the knot. This operation is best performed in the fall immediately after the foliage drops, because the winter spores are not formed at that time and consequently there is less danger of their being disseminated in the operation and also because the work can be done more thoroughly when there are no leaves to hide the knot.

The summer spores must always be taken care of in their season. As soon as there are any indications of the formation of a new knot in the spring or during the summer the branch on which it occurs should be cut and burned. The first outbreak will probably be noticed about the middle of May.

It is important to note that if a branch containing the knot be cut from the tree and thrown on the ground the spores will ripen in due time just the same. Therefore, the practice of collecting carefully and burning every knot cannot be too strongly urged.

The bulletins of the Massachusetts experiment station contain reports of some experiments in the application of various substances for the purpose of destroying the knot. Kerosene, turpentine, linseed oil, sulphate of copper and a mixture of red oxide of iron and linseed oil are mentioned as among the substances tried. These seem to be effective in destroying warts to which they are applied to saturation, but care must be used with the turpentine and kerosene or the entire branch will be killed.

But the great trouble with many plum growers is one which these remedies fail to reach, namely — the production of spores on the knot-infested trees of their neighbors. Against the disease in such places the careful fruit grower can at present oppose only persuasion hoping by this means to secure his neighbor's co-operation in a campaign of extermination against the knot.

Figure X is from a photograph of a few neglected trees along an old fence where a plum thicket has been allowed to grow. A close examination will show that the healthy bark on the trees represented in this picture is quite smooth while the dark and enlarged trunks or twigs reveal the presence of the knot.

A fence row like that of which a portion is shown in figure X produces enough black knot spores each year to infect the whole neighborhood. Many such places in the State spread their seeds of destruction on the winds year after year and persons in their neighborhood who are trying to grow plums either for home use or for market are powerless to protect their trees from the invasion of the dreaded disease.

Concerted action on the part of all who are interested in growing plum and cherry trees can do much towards eradicating the black knot. For those cases that cannot be reached by other means it would seem right that proper legislative enactment be provided so that the fruit grower may protect his orchard from all infected trees of the vicinity. Let it be remembered that in the work of thorough eradication of the disease the wild plum and cherry trees before mentioned as host plants of the black knot must not be neglected.

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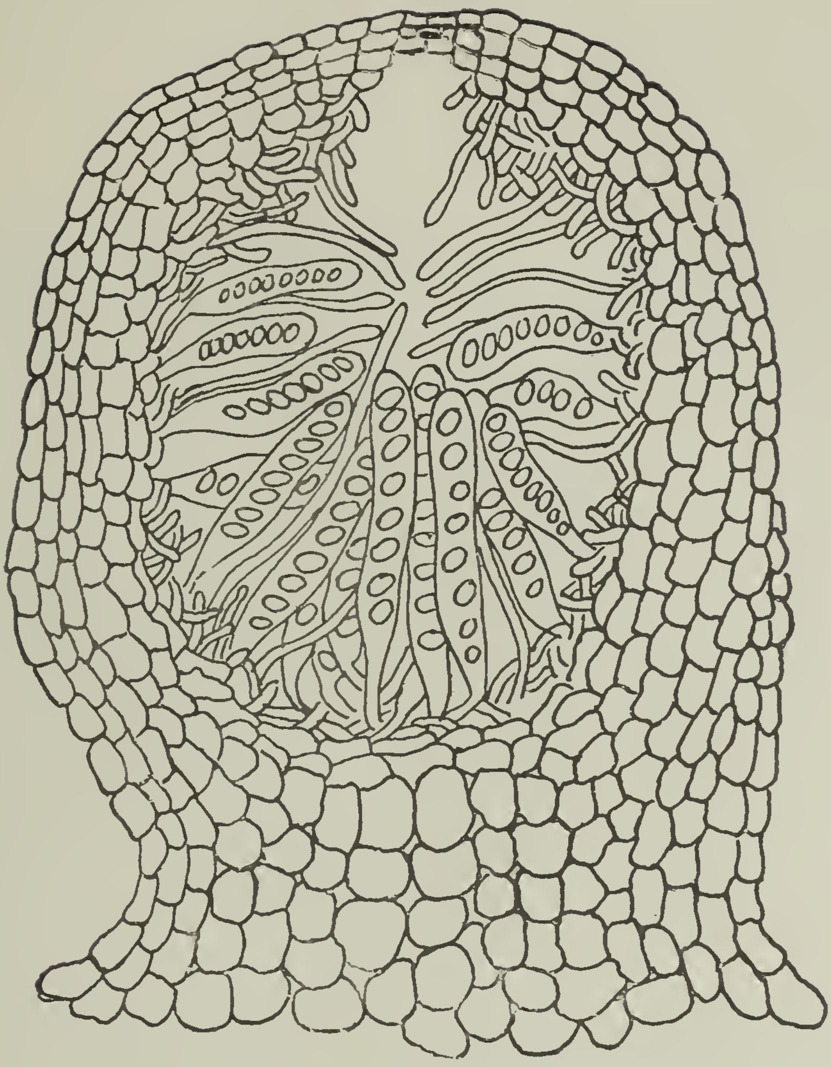

FIG . VIII.— Magnified view of space cavity

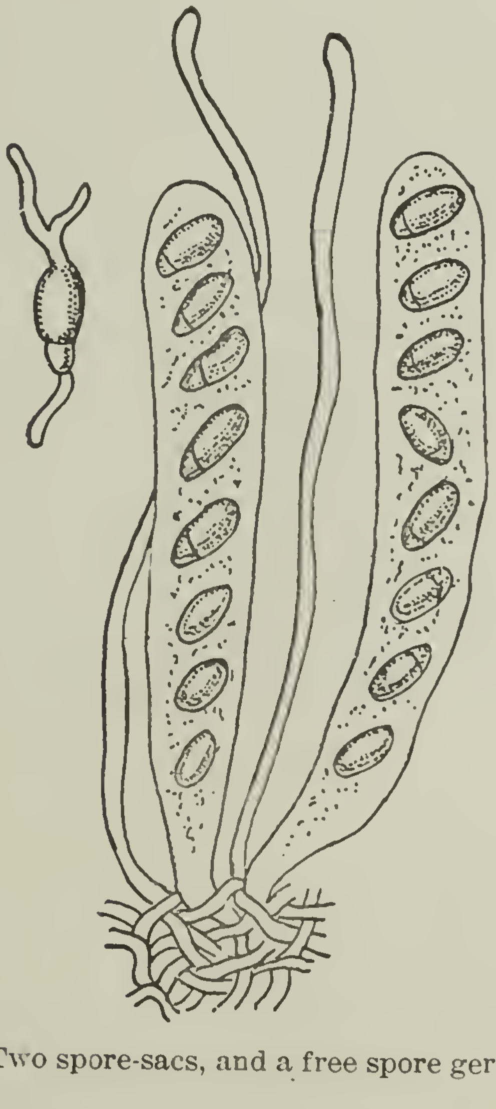

FIG. IX.— Two spore-sacs, and a free spore germinating.

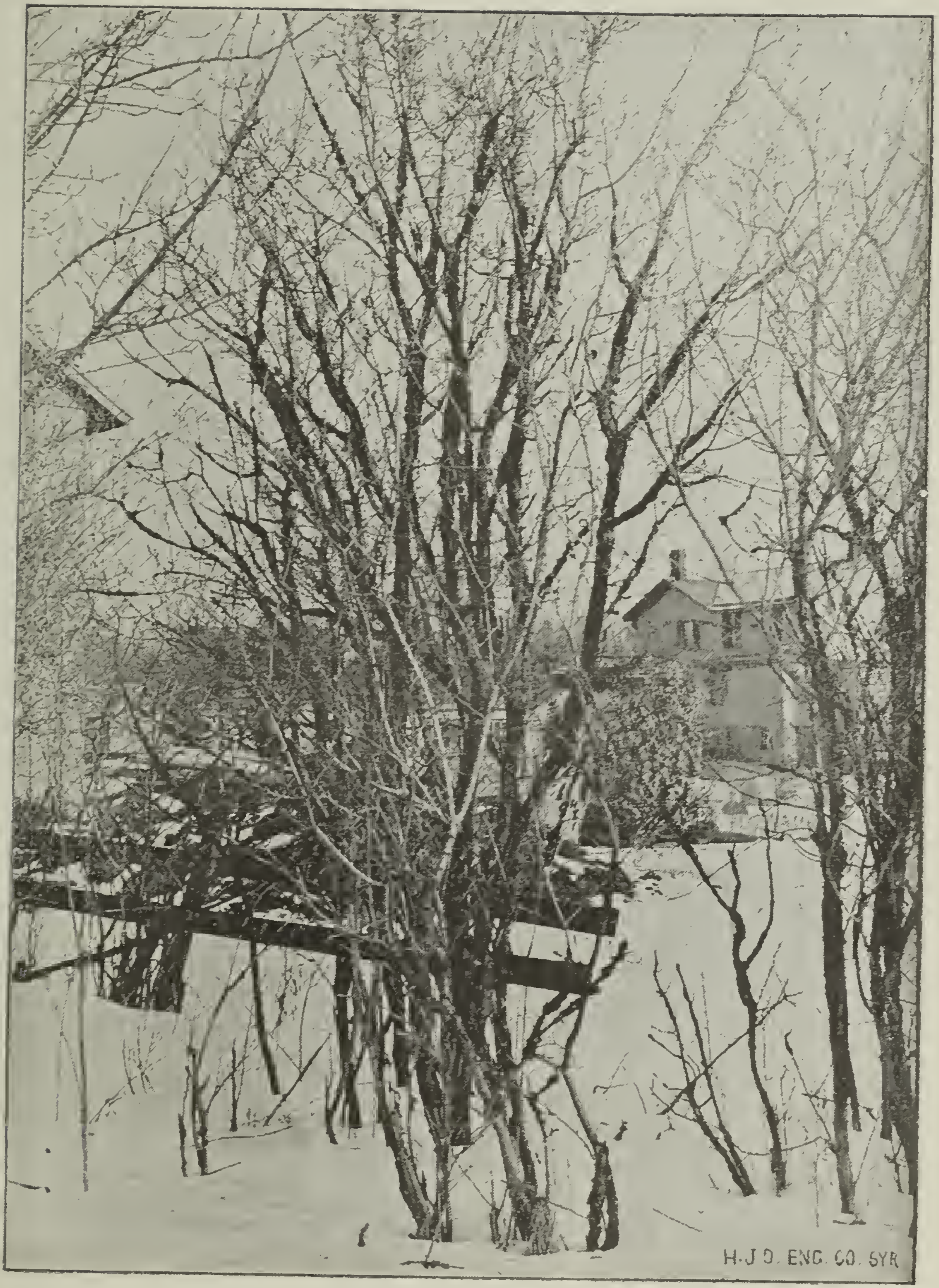

FIG. X.— Portion of an old fence row showing plum trees badly infested with black knot (from a photograph).

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Bean Anthracnose and Its Treatment.

Popular Discussion.

Bean anthracnose is a disease which sometimes causes very serious loss to bean growers, whether market-gardeners, truck-farmers, or farmers; and in New York State it frequently, if not usually, diminishes by a good percentage the profits of the crop. It has also been reported as prevalent in various other parts of America and in Europe.

Some New York Farmers have attributed the loss of nearly their entire crop the past season to anthracnose, and this estimate was made after they were furnished with a sample of the disease as it appears on the pods, in order that the report might be made as accurate as possible. Many, on the other hand, reported loss varying from five per cent to twenty per cent. A smaller number gave estimates of loss varying from twenty-five per cent to nearly 100 per cent, and others reported no loss at all.

As noted in the last report of the director of this station,* nearly one-half the dry beans produced in the United States are raised in New York State. Those counties in which the crop exceeded 20,000 bushels in 1880 are named below, in order of the rank of their yield, Monroe county heading the list with a yield of 293,563 bushels. California was the only State, except New York, which exceeded the yield of this one county. The following is the list: Monroe, Orleans, Livingston, Genesee, Wyoming, Niagara, Wayne, Jefferson, Clinton, Ontario.

According to the 1890 census report of the acreage of beans § on the seed farms of the country, New York State heads the list with 4,600 acres, or thirty-six per cent of the whole, a greater acreage than all the rest of the United States combined, excepting Illinois and Michigan.

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* Tenth Annual Report N. Y. Experimental Station, p. 23.
§ Except Lima beans.

In the acreage devoted to snap or string beans on truck-farms. the "New York and Philadelphia" district stands second only to the "South Atlantic" district. The statistics of the acreage devoted by market-gardeners to snap beans are not at hand, but it is known that snap beans are with them an important crop. On the whole it may be said that the bean crop of New York State is of sufficient importance to justify a study of bean diseases.

It is readily seen that a loss of five per cent of the crop means a loss of more than five per cent of the profits, and, whether the crop be small or large, an injury amounting to five per cent of the yield is of sufficient importance to justify an inquiry as to its cause and remedy. Especially is this true when an injury results from a disease capable of propagating itself from year to year in the diseased seed, and one that under favorable conditions for its development may raise the loss from five per cent to fifty or seventy-five per cent, or perhaps entirely ruin the crop.

Such a disease is the bean anthracnose, frequently but incorrectly called bean rust. The latter name should be reserved for the true bean rust, which is quite a different, and, so far as the writer's observation goes, much less troublesome disease of beans. Again, much of the loss popularly attributed to rust is really due to a bacterial disease which blights the foliage and causes watery spots on the green pods, followed frequently by decay. Sometimes it is even more destructive than the anthracnose. Frequently the arthracnose and this blight are present on the same plant and even on the same leaf or pod.

It is well at the outset to have these distinctions clearly in mind, for the following discussion is devoted first to but one of these diseases, namely, the anthracnose, and afterwards the blight and rust are given brief consideration. With the aid of the following descriptions of the way this disease affects the different parts of the plant, together with the accompanying illustrations, it is hoped that the careful reader will find no trouble in recognizing bean anthracnose.

Diseased seed.— When anthracnose infected seed is planted the disease most frequently is found on the seed leaves (cotyledons) as soon as they push through the surface of the soil, but it may be found on any other part of the plant above the roots. Sometimes it eats through the main stalk and in that way destroys the young plant, or it may kill it before it is able to lift itself through the surface of the soil. By killing the young seedlings and the germinating seed a good stand of beans is prevented sometimes causing a loss of twenty-five per cent of the seed planted. Dr. Halsted* reports a loss of fifty per cent on seed grown indoors in boxes. With such seed planted in the field even a greater loss might occur. Figure I, from a sketch of a diseased seedling, shows the pits on the seed leaves and along the stem. The stem is nearly eaten through by the disease.

Appearance on young plants.— With those plants which succeed in outgrowing its early attacks, the disease continues its depredations on stems and foliage. Very often it eats off the stalklet of a leaflet at the joint where it is attached to the main leaf stalk (petiole), and frequently it drops the whole leaf by eating through the petiole at the joint near the base of the leaf.

Appearance on leaves.— Figure 2 from a photograph shows the appearance of the disease on the underside of a leaf. It causes the veins to become black and shriveled, and in the softer tissue it forms dark spots. It seems to show a fondness for the veins of the leaf and for the fiber bundles of the plant. These are blackened by its attacks. One of its most characteristic appearances is seen in the dark colored veins and veinlets on the under side of the leaf. It may also become established in the soft green substance of the leaf (parenchyma) between the veins where it usually forms narrow, elongated, dark colored patches that soon break away and leave irregular cracks in the leaf with blackened edges.

Appearance on pods.— The appearance of the diseased spots on the pods is well shown in figure 2. On the sides of the pods, or of the tender young stems, it is readily recognized by the black pits with red borders. At first these are usually circular,

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* Annual Report of New Jersey Experiment Station, p. 285.

but afterwards may become more irregular in outline, sometimes by coalescence forming very large patches. Along the edges of the pods it is seen in narrow strips of dark color. The pits above mentioned are commonly bordered by a narrow reddish discoloration between the diseased portion and the healthy green tissue of the pod.

Appearance of spore masses.— Soon after the formation of a spot, there appears in the central portion of the diseased area pinkish white dots about the size of pin points. These dots are caused by exudations from the tissues which the fungus has filled with its black threads, and they consist of spore masses, that is to say, the spores which the fungus has produced to spread the disease are here pushed forth in masses. These are also well illustrated in figure 2. The spores are held together in masses this way by some substance which readily dissolves in rain or dew, after which they may be scattered to other plants by winds, insects or passing animals. This provision of the fungus for spreading its germs to other plants seem to afford a reaonable explanation for the opinions held by many farmers, that the disease does most damage in damp locations, and that cultivation when the plants are wet with rain or dew is apt to spread the disease more rapidly. The spores are produced by the anthracnose on whatever part of the plant it may happen to be living, but probably are formed in greatest abundance on the succulent tissues of the pod.

In the anthracnose the bean plant has a powerful and persistent foe. If present in the seed it attacks the young plant from the moment it starts to germinate and keeps up the warfare until it has succeeded in establishing itself in the seed again ready for another season's campaign. By injuring the foliage it weakens the plant so that it lessens the yield in this way, and also by its attacks on the pod prevents them from filling perfectly, if at all. On the seed it causes specks, pits, wrinkles or blisters, and all degrees of discoloration. Sometimes the discoloration is so faint as to be scarcely noticeable. As demonstrated by Dr. Halsted, and abundantly confirmed at this station, these infected beans carry the disease from one season to another.

Experiments in Treating Bean Anthracnose.

By means of laboratory, green-house and field experiments, investigations have been conducted for the purpose of learning whether bean anthracnose could be in any way prevented. These investigations have included the following experiments:

1. Preliminary green-house experiments in treating diseased seed with the following fungicides; namely, hot water, ammoniacal solution of copper carbonate and Bordeaux mixture. The seed was soaked in these fungicides before planting, and the effect of the treatments on the disease carefully noted.

2. Field experiments with seed soaked in the following fungicides; namely, hot water, copper sulphate, iron sulphate (copperas), mercuric bichloride (corrosive sublimate).

3. Comparison of plants grown from diseased seed with plants grown from healthy seed.

4. Treatment of plants from diseased seed by spraying different lots with Bordeaux mixture, cupric polysulphide and cupric borate respectively. At the suggestion of D. G. Fairchild the two latter mixtures were tested and soap was added to all three substances.

It will be noticed that these investigations have proceeded on three separate lines, namely:

a. Treatment of diseased seed.

b. Comparison of yield from healthy seed with yield from diseased seed.

c. Spraying diseased plants.

Treatment of diseased seed.— The treatment of diseased seed will be discussed more fully hereafter. It may be simply stated here that the total yield of marketable beans from areas planted with treated seed was in every case less than the yield of marketable beans from equal areas planted with untreated seed. At present, therefore, this method cannot be recommended.

Comparison of yield from healthy seed with yield from diseased seed.— As to the second line of investigation it may be said that the selection of clean seed is the most important and effective known method of securing healthy plants. It ought never to be neglected with the hope of controlling the disease by means of fungicides. First. Because treatment with fungicides cannot completely check the disease after it has once gained a foothold in the field nor can it restore the dead. Second. Because a good stand of plants cannot be confidently expected from diseased seed.

It is true that in the experiments here reported, the plants treated with Bordeaux mixture gave cleaner and larger yield than those from healthy seed, notwithstanding the fact that the Bordeaux-treated plants came from diseased seed, that is to say, from seed selected because it was diseased. This may be accounted for in two ways: First. The healthy seed was planted just as selected by ordinary care and when germinated showed at once a few plants spotted with the disease, and these diseased plants were purposely allowed to remain mixed with the healthy plants to see what difference would appear between the crop from diseased and from healthy seed as selected with ordinary care. Second. The diseased seed was planted adjacent to the healthy seed. Here then were two sources of infection for the healthy plants, namely, from a few diseased plants in their own ranks and from the many diseased plants in neighboring rows. The result was that as the season advanced the healthy plants became more and more diseased till finally in yield and vigor they dropped behind the diseased plants treated with Bordeaux mixture. Had the healthy seed been sorted again carefully before planting, had the crop been planted by itself, and had every diseased plant been rooted out and carried from the field immediately after the plants showed themselves above ground, there is every reason to believe that the crop would have been larger and the beans cleaner than they were under the "ordinary care" method. The data which justifies this opinion is given more fully hereafter. (See "Selection of Healthy Seed," page 323.)

Where the seed can be secured from a field known to be free from the disease it is advisable to do so. If, however, the only seed available contains diseased beans, the sound ones only should be used for planting. All wrinkled, blistered, spotted beans or those with sunken pits or with any discolorations whatever, should be rejected. From a badly diseased lot of seed a rigid selection may secure but a small per cent of sound seed as was the case with the yield from a badly diseased row in one of the experimental plots the past season. Ninety per cent of the entire yield was marketable, but only one per cent was fit for seed. If, however, anyone knowing the life-history of the disease is content to plant infected seed, surely there is no ground for complaint if he reaps what he has sown.

By means of the following tables the yield of the crop grown from healthy seed may be compared with the yield from an equal area planted with diseased seed and with a third equal area which was planted with diseased seed and the plants sprayed with Bordeaux mixture. In column I is given a comparison of the yield of pods counting the total yield of plants from healthy seed as 100. In column II a similar comparison of the weight of the total yield is given. The yield of the plants early in the season is compared on page 325.

	I. Yield by number of pods.	II. Yield by weight of pods.
Healthy seed	100	100
Diseased seed	90	83
Bordeaux mixture	115	123

Spraying diseased plants.— Spraying plants with weak Bordeaux mixture gave the best results of any treatment with fungicides tested. The formula used was two pounds of copper sulphate and one and one-third pounds of freshly slaked lime to thirty gallons of water, and enough soap to make a suds. The object of adding the soap is to cause the mixture when applied in a fine spray to form a thin film or coating over the entire surface of the leaf instead of standing in separate, even though minute, drops. If soap is not used it would probably be best to use less water with the weight of copper and lime above given, taking rather from twenty-one to twenty-six gallons of water for the given amount of the other ingredients.

The first spraying was given fourteen days after planting. At this time very few plants had expanded the third leaf. The withering distorted foliage and the black pits on stem and seed leaves (cotyledons), showed that the disease was actively at work. Care was taken to cover every part of every plant with the spray since the object of the spray is not to kill the fungus in the affected plant but to prevent its spreading to healthy foliage and infecting the new leaves. Any application which would succeed in killing the fungus in a diseased plant would also kill the plant.

After an interval of nine days the beans were sprayed again; the third treatment followed the second at an interval of twenty-three days; and finally after another interval of eighteen days a fourth treatment was made. No unyielding rule for the number or frequency of treatments can be given. If rains are abundant, and the fungicide is washed off from the leaves, the foliage must again be covered with the spray in order to ward off the disease. On the other hand should pleasant weather prevail, and the fungicide remain on the foliage, it will not be necessary to spray again until sufficient new foliage has grown out to justify another treatment. With field beans three sprayings may prove sufficient, but probably snap or string beans can profitably be given four treatments, but, as before stated, no invariable rule can be given. In the following table a comparison is made of the yield of plants treated with the different fungicides, counting the yield of the Bordeaux-sprayed plants at 100. The amount of damage from anthracnose is deducted in each case. In column I the yield is computed from the total number of pods produced, and column II gives the yield by weight of the total number of pods.

	I. Yield by number of pods.	II. Yield by weight of pods.
Cupric borate	56	40
Untreated	64	51
Cupric polysulphide	71	54
Untreated	61	57
Bordeaux mixture	100	100
Untreated	61	51

For the benefit of those who may be interested in the details of the experiments and a description of the microscopic character of the fungus which causes bean anthracnose, a more extended account is appended below.

In conclusion the following treatment for bean anthracnose is recommended:

1. Selection of sound seed for planting.
2. Immediate removal of infected seedlings from the field.
3. Keeping the foliage covered with Bordeaux mixture.

The first recommendation can well be followed out during leisure hours between harvest and planting time. It will probably accomplish as much as two good sprayings and we have no doubt that time spent in selecting seed is very profitably employed.

The second recommendation should be carried out thoroughly. To pull out the plants and leave them on the ground is not sufficient, for on the uprooted plants the fungus will quickly ripen its spores and will live long after the plant is dead.

Many object to the use of Bordeaux mixture because they experience so much trouble in preparing and applying it. Preparation of Bordeaux mixture may be simplified by a test which obviates the necessity of weighing the lime, and, where large quantities of lime are used, permits slacking the lime in large quantities at one operation. The copper sulphate is weighed and mixed with an amount of water sufficient to dissolve it. When it is completely dissolved, the lime, in the form of thin whitewash, is strained through burlap (gunny sacking) into the copper sulphate solution. A drop or two of potassium ferrocyanide (saturated aqueous solution) added from time to time after thoroughly stirring the mixture will show when enough lime has been added to form the Bordeaux mixture. If not enough lime has been used, the drop of ferrocyanide will turn to a very dark color the moment it touches the mixture; if enough lime has been used, the ferrocyanide will not change color when it is dropped into the mixture. Water is then added till the Bordeaux mixture is diluted to the desired strength. The commercial form of potassium ferrocyanide may be used for this test. A supply for the entire season may be purchased for a few cents.

When Bordeaux mixture is applied with a knapsack pump the motion of the body will keep the mixture well stirred, but when a barrel-pump is used, the motion of the cart is not sufficient to prevent the copper compounds from settling to the bottom. When this occurs, part of the mixture is applied in a very weak form and a part has an excessive amount of copper. Finally when the sediment is discharged it often clogs the nozzle and causes much trouble. These difficulties are best overcome by arranging some kind of dash or agitator so that with every stroke of the pump the whole mixture is thoroughly stirred. An agitator is even more necessary for the application of Paris green than for Bordeaux mixture. Some manufacturers now supply large pumps with agitators.

The true improved Vermorel nozzle is considered best for applying the Bordeaux mixture, better than the modifications of it which are sometimes offered. Success in treating the anthracnose as above recommended depends very much upon the kind of nozzle used and the care taken to cover all parts of the plants with the spray.

Spread of disease on gathered pods.—Experiments with gathered pods of snap beans from diseased plants proved beyond question that pods which were apparently perfectly sound and without a blemish when first gathered may become badly spotted in two or three days' time. It was also proven by inoculation that unblemished pods may soon become infected by spores from diseased pods. It was very easy to see that shipments of snap beans gathered from diseased plants might be sent from the producer in apparently good condition and yet become very badly spotted by the time they reach the consumer.

Discussion of the Fungus and Details of Experiments.

Bean anthracnose is so named because of the sunken spots or "ulcers" formed by the disease on the pods or other succulent tissues. It is due to a parasitic fungus known as Colletotrichum Lindemuthianum (Sacc. and Magn:), Briosi and Cavara, but was formerly known as Gloeosporium Lindemuthianum, Sacc. and Magn. It is found on various varieties both of bush and pole beans of the species Phaseolus vulgaris, L., and is not confined to wax and butter beans. In an article on Gloeosporium Lindemuthianium published in the Department of Agriculture Report, 1887, page 361, it is stated that "It is the pods and the beans they contain that are chiefly affected, the other parts of the plant being rarely, if ever attacked. Frank attempted to infect the leaves and stem but with no result. He also tried to infect different plants but failed." During the past season we have frequently found the fungus fruiting on stems and leaves and have seen plants killed by the disease not only before they had produced any pods but even before they had blossomed. Early in the season there have been found rows of beans with every plant infested with anthracnose. In 1891 Dr. Halsted * showed that the disease may be carried over winter in infected seed and that the disease frequently appears on the stems and cotyledons of plants grown from such seed. He also succeeded in infecting the leaves and in transferring the disease to healthy bean plants. The results he obtained have found abundant confirmation in the work at this station during the past season.

Microscopic characters.— The microscopic characters of this fungus may be briefly given as follows:

The mycelium may be hyaline or nearly so, but just beneath the epidermis it forms a dense, dark-colored stroma, which precedes the production of spores. From this stroma arise the dense clusters of basidia that at first lift the unbroken epidermis and form dark dots or pimples (acervuli) visible to the naked eye on the diseased surface. On the extremities of the basidia spores are produced, and finally pale pinkish colored masses of them about the size of pin points burst the epidermis as shown on the diseased spots of the pods in Figure 2. Sometimes neither the blackened color of the stroma nor the pink tint of the spore masses is noticeable, but such exceptions are infrequent. Grown on sterilized potato plugs in test tube cultures the spore masses were nearly colorless and showed no pink tint. The mycelium is septate, branched and of variable diameter. According to Frank†

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* Annual Report N. J. Experiment Station, 1861, p. 284.

† Deutschen Botanischen Gesellschaft, Berichte der, Band 1, 1883, pp. 31–34.

the spores fall on the surface of the host and send out a germ tube which presses its enlarged end closely against the epidermal cells. From this a colorless hypha penetrates the cell walls and grows into a mycelium which fills the cell cavities. Then the mycelium penetrates into the underlying tissues.§ "Almost immediately the cell walls of the host and their contents become discolored and in the exocarp the cell walls collapse, thus forming an almost solid mass of cell walls and mycelum." Figure 3 illustrates a section of the pod through the collapsed tissue which underlies a cluster of basidia. The epidermis which formerly covered the acervulus has broken away and a portion of its recurved edge is seen at the right. A seta is also shown projecting beyond the acervulus, and a few spores remain attached to the ends of the basidia. The collapsed tissue is seen below. By the collapse of the tissues the anthracnose pits are formed. In the leaf parenchyma, as previously stated, the tissue becomes collapsed and brittle, so that rifts through the leaf soon form in the center of diseased spots.

The basadia are upright (perpendicular to the stroma) and unbranched. Associated with them are a few setae which when mature are long and of dark brown color. Sometimes the setae are separate and sometimes they arise from a many-celled bulbous base.

The conidia are illustrated in Figure 4. They vary in length from 11.5 *u* to 18 *u* and in diameter from 3.7 *u* to 5.3 *u*. An average of sixteen measurements gave the following dimensions: 15.2 *u* x 4.4 *u*. They are non-septate, hyaline, oblong, cylindrical or sometimes slightly narrowed towards one end. They burst through the epidermis in masses held together by some substance which soon dissolves in water.

The fresh conidia may be germinated readily in sterilized broth made from bean pods or foliage. They germinate less readily in sterilized water. Germination usually begins at or near the extremities of the spore, and two or more germ tubes may issue from one spore. Figure 5 illustrates the progress of germination about twenty-four hours after the spores were put into bean broth. At this stage some of the hyphae were already septate and branched. The appearance of the hyphae seemed to be influenced somewhat by the media in which they were grown.

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§ U. S. Department Agriculture, Report 1887, p. 363.

Prevalence in western New York.— Reports as to the prevalence of bean anthracnose have been received from fifty-seven farmers representing nearly every county in western New York. When the letters of inquiry were sent out, a sample anthracnosed pod was inclosed, that there might be no misunderstanding as to the particular disease which was being investigated. Though these reports are few in number yet they throw some light on the importance of finding a remedy for the disease, since in several instances the apparent loss from this trouble was very great.

Of the fifty-eight reports above mentioned, thirty-six (sixty-two per cent) reported the disease, two were doubtful as to its presence, and twenty stated that the disease had not appeared this season. The estimates of the damage varied from a slight amount to nearly or entirely the whole crop. Seventeen estimated the loss at less than twenty per cent; ten reported loss from twenty per cent to thirty per cent; three reported loss from thirty per cent to fifty per cent; two reported loss from fifty per cent to seventy-five per cent; one reported a loss of from seventy-five per cent to 100 per cent, and three reported nearly or quite 100 per cent loss.

Seed soaked in fungicides.— As stated previously, several methods of treating beans for anthracnose by soaking the seed in fungicides have been experimented with in field and greenhouse. Laboratory investigations of the disease were begun in January, 1892, and the greenhouse experiments were started soon afterwards. With the seed used and under the conditions of soil, heat and moisture found in the greenhouse, the seed could be safely treated by soaking as follows:

1. Water at 140 degrees F. five minutes.
2. Water at 130 degrees F. fifteen minutes.
3. Bordeaux mixture (six pounds sulphate of copper, four pounds lime, twenty-two gallons water) one hour.

4. Ammoniacal solution of copper carbonate (five ounces copper carbonate, three pints ammonia twenty-six degrees, fifty gallons water) one hour.

5. Potassium sulphide (one ounce sulphide, two gallons water) one hour.

In the last of the greenhouse experiments tried, a bench was prepared with rich soil over a layer of well-rotted sod. In it was planted diseased seed treated according to each of the above methods excepting the first one. Three rows were allowed for each treatment and five rows were left untreated. When the young plants appeared there was an abundance of disease on all classes. After a few weeks the remaining plants became well established and the disease in every case made so little progress that no marked difference could be seen between the plants of the different classes. A comparison of the effects of the various methods of treatment used can, therefore, best be made from the records of germination and disease during the first weeks of the experiment. Plants removed in thinning the rows are included in this report. It is probable that many of these which were very young, but apparently healthy when removed, were in reality infected at that time and would finally have dropped into the diseased class as did others like them which were allowed to remain. Of course, when there was any choice the best plants were always allowed to remain. By means of the following table the apparent results of the different treatments may be compared.

Treatment.	Per cent diseased or that failed to grow.	Per cent healthy.	Per cent healthy removed in thinning.
Untreated, five rows	60	5	38.3
Bordeaux, three rows	58.3	16.6	25
Ammoniacal, three rows	58.3	8.3	33.3
Hot water, three rows	50	25	25

It appears that the hot water treatment gave the greatest freedom from disease. When this line of investigation was continued in field experiments the Bordeaux mixture and ammoniacal solution of copper carbonate were dropped from the list of fungi-

cides used in soaking the seed since, as shown in the above table they gave less favorable results than did the hot-water treatment, and in both cases the disease appeared on over half the plants from which under field conditions it might easily spread until every plant in the field was infected. In field experiments with soaked seed the following methods were used:

Hot water.— Seed soaked fifteen minutes in water at 120 degrees F. then for five minutes in water at 130 degrees F.

Copper sulphate.— Seed soaked for one hour in solution of copper sulphate. Strength of solution one ounce to one gallon of water.

Iron sulphate (copperas). Seed soaked in iron sulphate for one hour, using one ounce to one gallon of water.

Mercuric bichloride (corrosive sublimate). Seed soaked for one hour in solution of mercuric bichloride. Strength of solution one-eighth ounce to one gallon of water.

Some of the results obtained from these experiments are compared in the following table:

	I Comparison of stand.	II Comparison of yield.	III Comparison of poor beans.
Hot water	43	84	88
Untreated	100	100	100
Copper sulphate	21	28	136
Untreated	100	100	100
Iron sulphate	88	71	132
Untreated	100	100	100
Mercuric bichloride	28	19	81
Untreated	100	100	100

In column I is given a comparison of the stand of plants secured under each treatment from equal areas, counting the stand from untreated seed in each case as 100.

In column II the total yield of marketable beans is compared in the same way.

In column III a similar comparison is made of the percentage of poor beans in the total yield in each case.

For example, column III shows that for every eighty-eight ounces of poor beans produced under hot-water treatment there

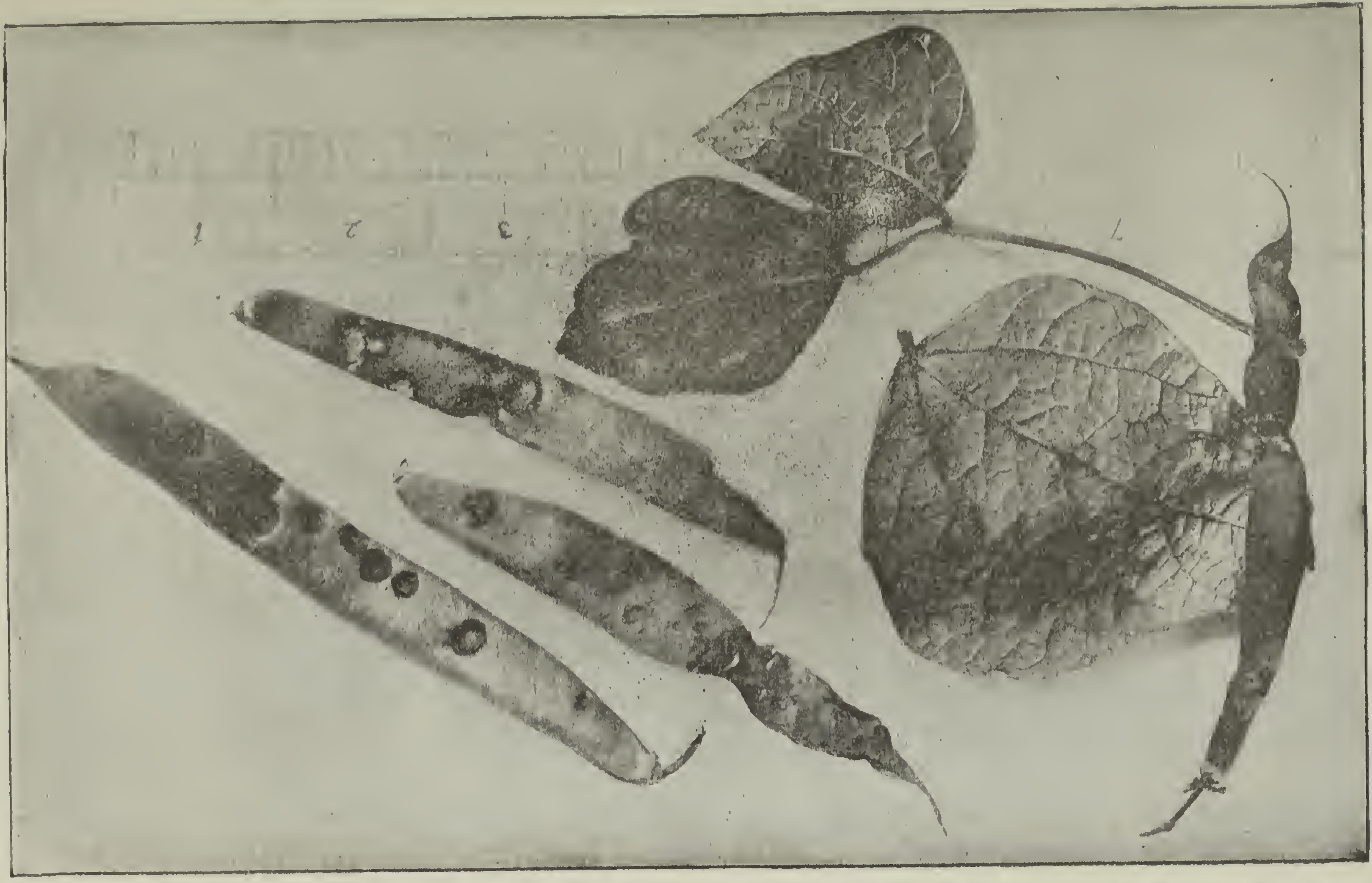

Fig 2.— Anthracnose on pods and leaves. The black veins, mid-rib and spots in the leaf (parenchyma) show the work of the disease.

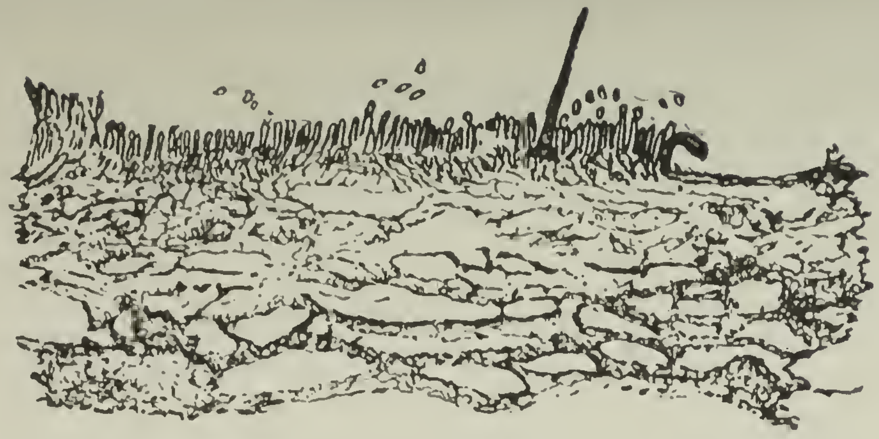

Fig. 3.—Section through an acervulus showing the clustered basidia with spores and the collapsed tissue of the pod underneath. A black seta projects beyond the basidia at the right of which is seen a portion of recurved epidermis of the pod. *Ad. nat. del.* $x\,\frac{100}{0}$ *S. A. B.*

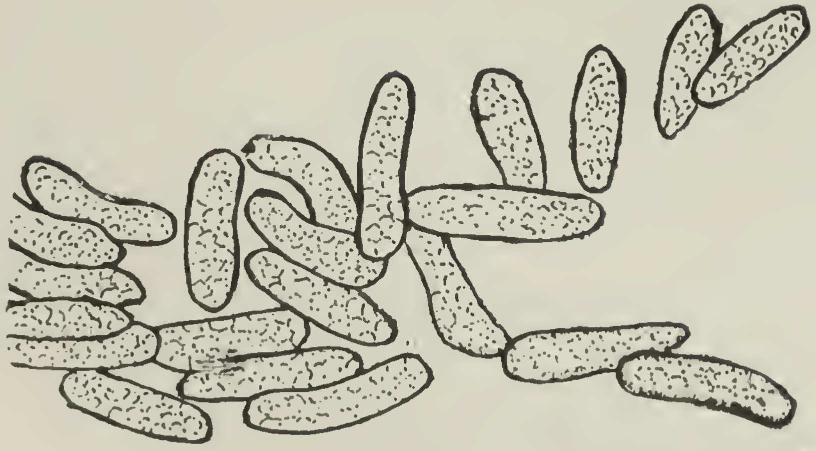

Fig. 4.—Conidia of Colletotrichum Lindemuthianum, $x\,\frac{600}{1}$ *Ad. nat. del. S. A. B.*

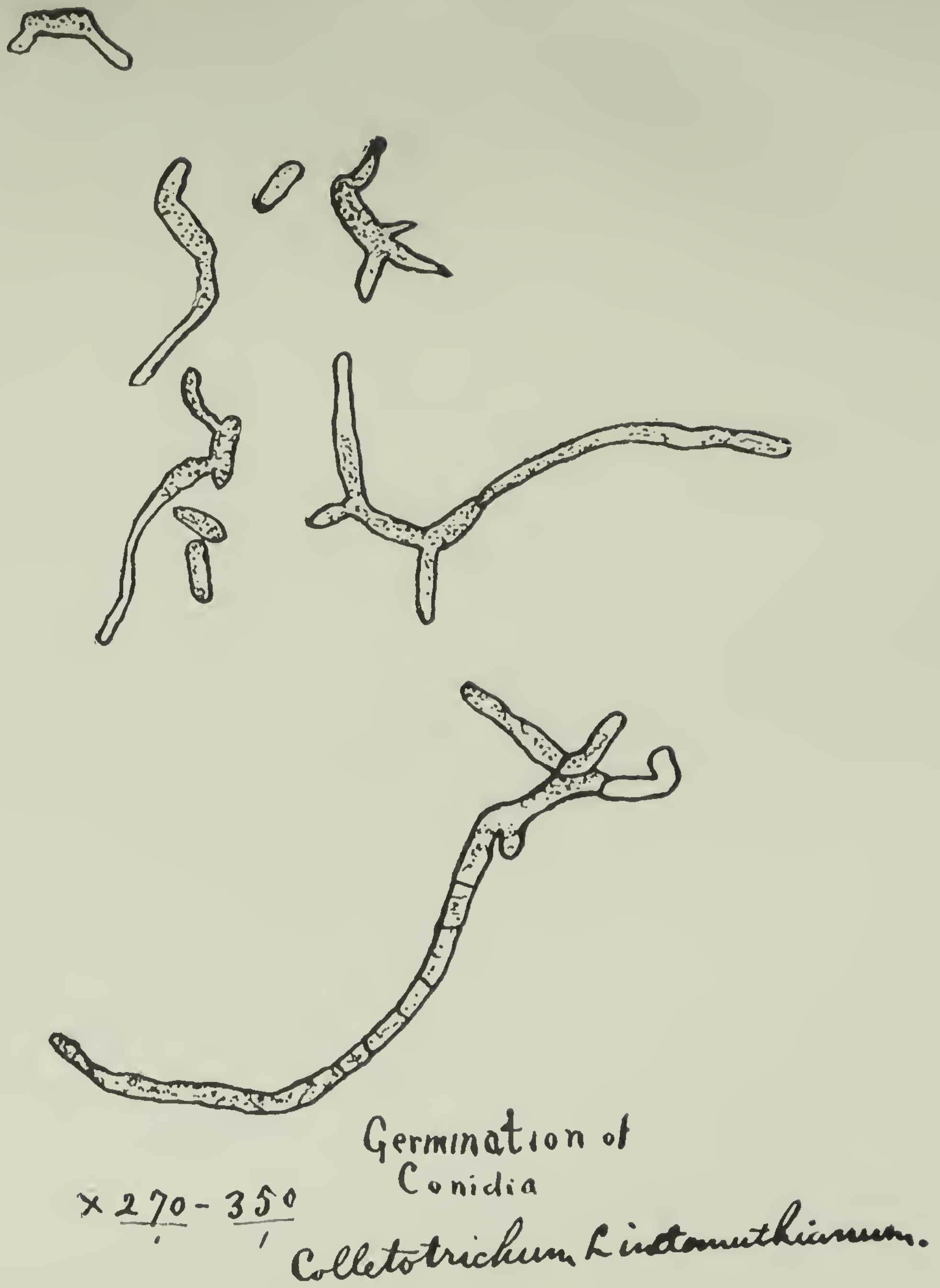

Fig. 5.—Conidia germinated in bean broth. *Ad. nat. del. S. A. B.*

were 100 ounces of poor beans produced from an equal yield of untreated plants. The reason why the latter class is credited with the larger total yield in column II is plainly because a much better stand of plants was secured as shown by column I.

It appears that in all these experiments the hot water treatment has given better results than treatment with any other fungicide used in soaking the seed. The important fact to notice is that the untreated seed gives a greater yield of marketable beans than do any plots of the treated seed. This is not because plants from untreated seed were any less diseased, but because they gave a better stand of plants. Even when the treatment of the seed by the best fungicides is so severe that the stand is seriously injured there remains enough of the disease to injure the crop under field conditions. At the time of harvesting the crop in the above noted experiments, not a sound plant or even a sound pod was found in the whole lot. These results certainly give little encouragement for hope that treatment of seed with fungicide will yield sufficiently good results to justify recommending its adoption. It should be noted, however, that with plants grown indoors for twenty-four days Dr. Halsted found* beneficial results from soaking seed for two hours in ammoniacal solution of copper carbonate five times the strength used in the green-house experiment reported above. He reports that one-fifth of the plants from treated seed were affected by the disease, and these but slightly, while nearly one-half the plants from untreated seed were badly affected. Sixty per cent of the seeds germinated in each lot.

Selection of healthy seed.— One experiment was conducted in order to compare plants from healthy seed with plants from diseased seed. The so-called healthy seed really contained some affected beans, as was apparent when they germinated. The sorting of the seed was not done personally, and though most of it was healthy, yet a second sorting with great care would have discovered other imperfect specimens. This seed was planted in two equal areas, and the adjacent grounds on one side of each was planted with diseased seed of the same variety, obtained from the same source. The soil was uniform in character for both classes and uniform treatment was given to both. The crop was gathered as snap beans and a record of the yield was kept both by weight and by number of pods produced. In order to determine accurately the severity of the disease, the pods were classified as follows:

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* Annual Report N. J. Experiments Station, 1891, page 286.

a. Free from any appearance of disease.
b. Slightly diseased.
c. Badly diseased.
d. Very badly diseased.

Figures 6 and 7 from photographs will assist in giving an idea of this classification. The pods shown in figure 6 are from an untreated row. Those shown in figure 7 were picked at the same time from a corresponding row treated with Bordeaux mixture, and well illustrate the good effects of spraying. In each case the plants came from diseased seed. Group No. 1 in each figure shows the amount free from disease; No. 2 shows those slightly diseased; No. 3 shows those badly diseased, and No. 4 shows those very badly diseased.

Five pickings were made, the last one September twenty-seventh. The records of the season's yield were then combined in one table. In order that this report might not be needlessly cumbered with tables, a somewhat arbitrary method was employed to find one numerical expression for the amount of injury from anthracnose in each case. To do this it was necessary to estimate the per cent of injury represented by each one of the three classes, "b," "c" and "d." This was done, and, on consultation with the two persons who assisted in assorting, five per cent was adopted to express the amount of damage in class "b," forty per cent for class "c," and ninety per cent for class "d." If the percentage of injury thus found is deducted from the total yield of each of these three classes and they are then combined with class "a," the result will state the yield for each experiment, less the percentage of total damage to the pods from anthracnose. It is a difficult matter to express either in words or in figures the degree of damage to the crop from the disease. The above method was adopted because it includes in the record those pods

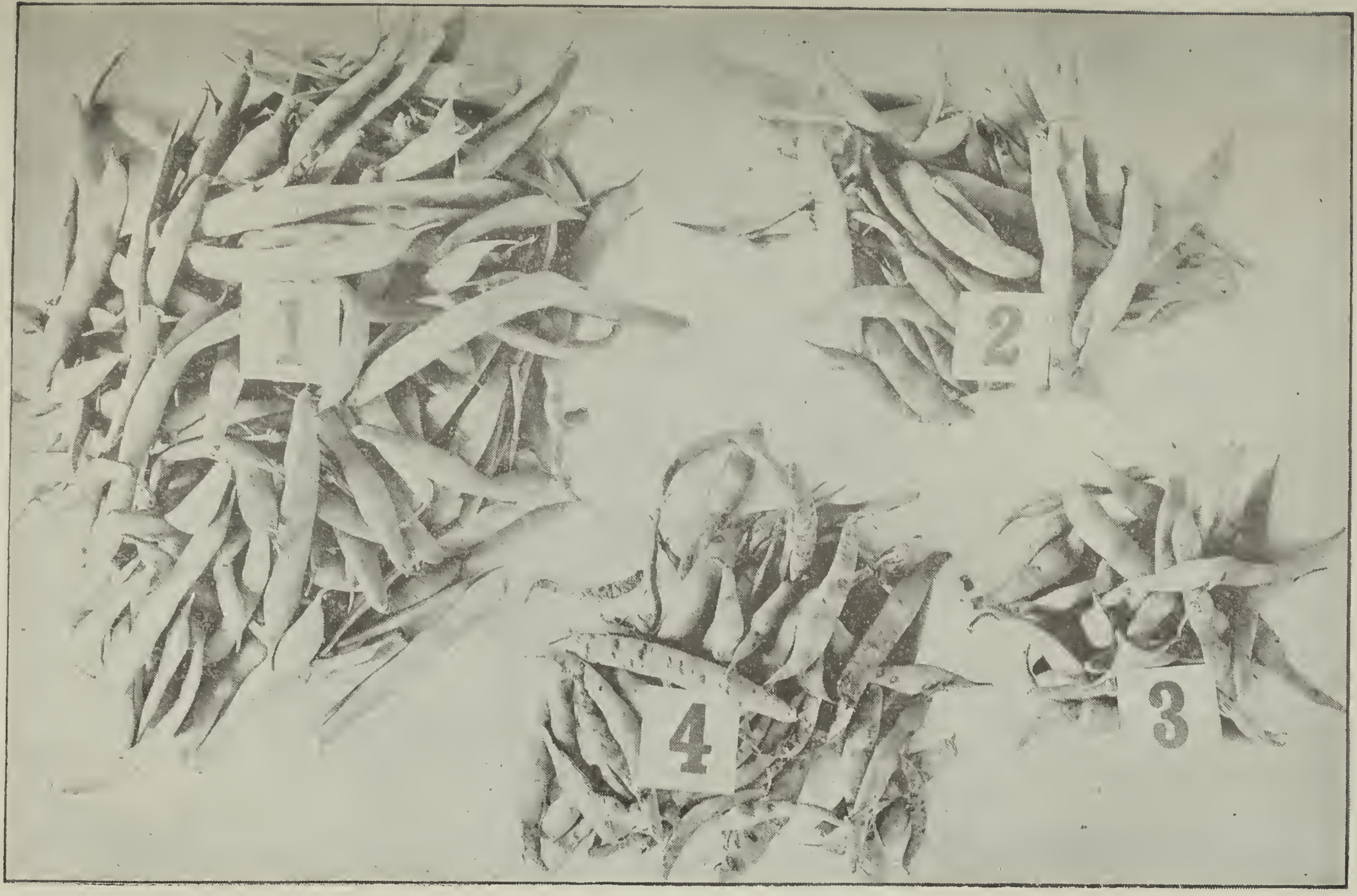

FIG. 6.—Classes a, b, c and d from an untreated row.

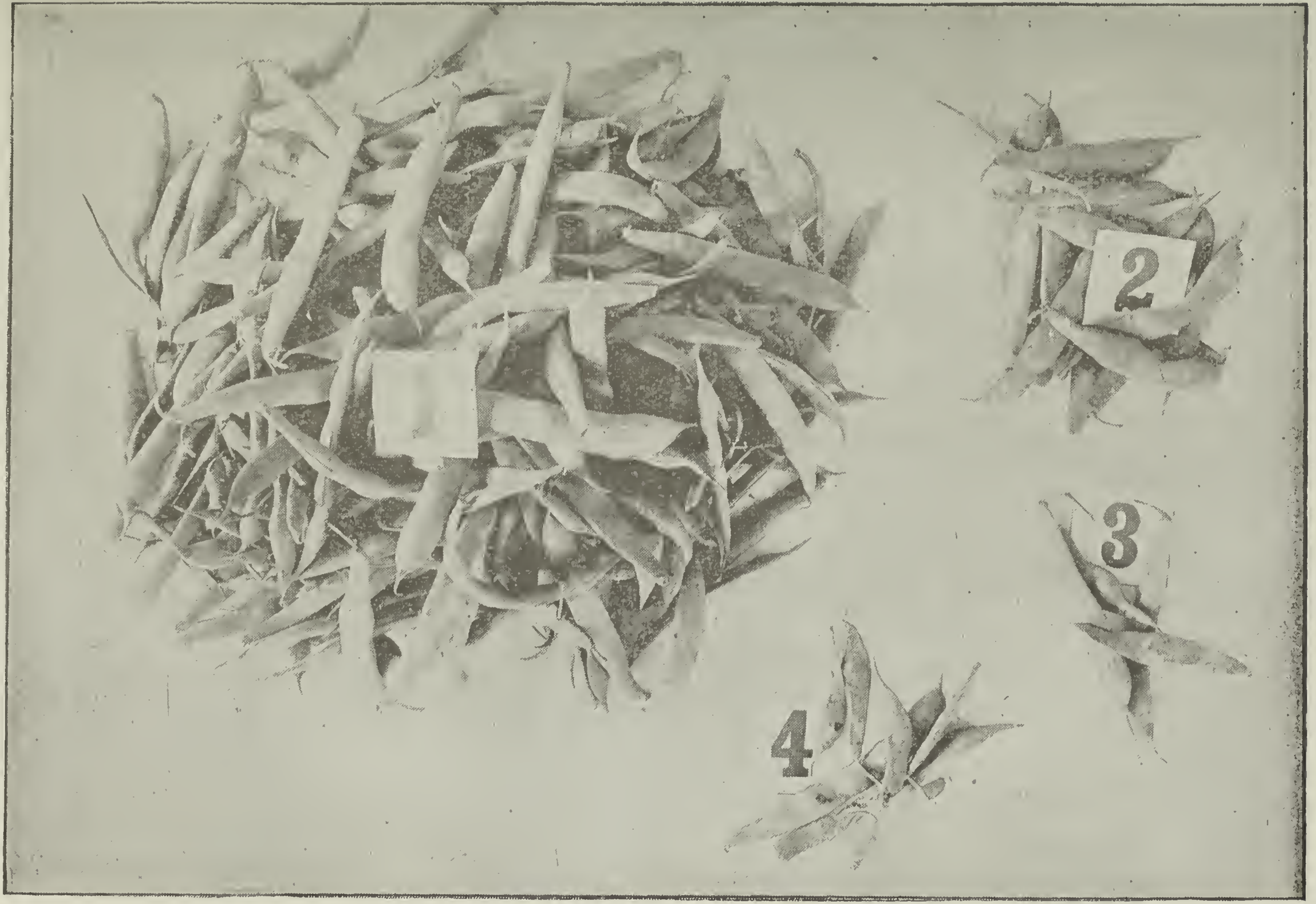

Fig. 7.—Classes a, b, c and d from Bordeaux treated row.

which were too badly diseased to ripen seed. It will be seen at once, since there may be many of these in a diseased field, that a record of the yield of ripened beans could not give an accurate expression of the amount of disease.

In the following table, column I gives the comparative stand of plants from equal areas planted alike, counting the stand from healthy seed as 100. Column II gives the comparative yield by number of pods, counting that from healthy seed as 100. The yield here given is the total yield less the percentage of injury from anthracnose. Column III, in a similar way, compares the yield by weight. Column IV gives the comparative amount of damage done to foliage at the close of the season, September 27, 1892, counting the damage to plants from healthy seed as 100. The damage to foliage at this date was partly due to bacterial blight, and it was impossible to make separate estimates of the effects of each disease. The estimate was very carefully made with the assistance of Mr. D. G. Fairchild.

	I Yield of plants.	II Yield by number of pods.	III Yield by weight of pods.	IV Comparative damage to foliage.
Healthy seed....	100	100	100	100
Diseased seed....	84	93	83	108

It is instructive to compare with the above the following table, showing in a similar way the comparative condition of the plants earlier in the season, at the time of the first picking.

	I Stand of plants.	II Yield by number of pods.	III Yield by weight of pods.	IV Comparative damage to foliage.
Healthy seed	100	100	100	100
Diseased seed.	84	62	58	175

This shows plainly that the effect of the disease on plants from healthy seed became more and more marked as the season advanced. At the time of the first picking they were ahead of the plants from diseased seed by thirty-eight points on yield of pods, forty points on yield by weight, and seventy-five points on condition of foliage; but for the entire season the difference was but nine points, seventeen points and eight points, respectively. The few diseased plants discovered among this lot as the beans were coming up were purposely left, and they have furnished an excellent object-lesson on the importance of eradicating the disease in the beginning of the season. From these plants and from the plants in adjoining rows grown from diseased seed, the anthracnose undoubtedly spread to the healthy plants and in a marked degree reduced their yield.

Treatment by spraying.— This part of the subject has already been quite fully discussed, but only the Bordeaux formula there recommended has been given. The cupric borate formula used was as follows: Dissolve two pounds of copper sulphate in water, and separately dissolve in water two and two-tenths pounds of powdered borax; mix and dilute the whole to thirty gallons; finally add soap, as for the Bordeaux mixture.

The formula used for cupric polysulphide was as follows: Dissolve in water two pounds copper sulphate, and separately dissolve in water two pounds potassium sulphide; mix the two and dilute to thirty gallons; add soap as before.

It will be noticed that these fungicides, as suggested by Mr. Fairchild, contain equal amounts of copper per gallon, and, therefore, are strictly comparable as to the efficiency of equal amounts of copper in these particular forms. It was noticed after the first application that the cupric polysulphide had injured the foliage somewhat, and that even greater injury resulted from the use of cupric borate. Therefore, in subsequent treatment, all the formulas were reduced to thirty-seven and one-half gallons of water, instead of thirty gallons. The results do not indicate that it is advisable to use either the cupric polysulphide or the cupric borate mixture as a remedy for bean anthracnose.

Bibliography.

1. Saccarco and magnus.— Gloeosporium Lindemuthianum, n. s. Michelia I, p. 129, 1878. The fungus was first observed by Lindemuth, at Popplesdorf, in 1875, and is here named in honor of its discoverer.

2. Saccardo, P. A.— Gloeosporium Lindemuthianum, Sacc. Fungi Italici, plate 1032, with the above name and the following

reference: "Padova, Mich. I, 129, in leguminibus Phaseolus vulgaris. Tunio, 1875."

3. ——————.— Gloeosporium Lindemuthianum, Sacc. and Magnus, Sylloge Fungorum, vol. III, p. 717, No. 89.

4. Frank, B.— Ueber einige neue und weniger bekannte Pflanzenkrankheiten. Deutschen Botanischen Gesellschaft, Berichte richte der, Band I, 1883, pp. 31-34. Gloeosporium Lindemuthianum, Sacc. and Magn. States that the disease first became serious in 1882 when the investigations here reported were undertaken. The fungus attacks the half-grown pods and connues until they reach normal size. Describes the appearance of the disease on the pod and germination of conidia on the surface of the pod and on glass. Mentions the formation of a secondary spore with dark violet membrane on the surface of the pod from which a germ tube enters the epidermal cell by piercing through the cell wall. After gaining entrance to an epidermal cell in this way the mycelium rapidly develops and spreads to the surrounding tissue. Describes inoculation experiments which were successful only on the pods. In one instance the fungus fruited within five days after inoculation.

5. Trelease, Wm. The wax bean fungus.— The Country Gentleman, vol. L, p. 800, Albany, N. Y., 1885. One and three-fourths columns with illustration of conidia and diseased pod. A popular discussion of the general appearance and microscopic characters of the disease. States that it attacks stems, leaves and pods of the common bean, Phaseolus vulgaris, L., especially the white wax variety. Mentions the susceptibility of some varieties and discusses the probable causes, stating that "The susceptibility of the wax beans to the attacks of this fungus is not improbably connected with the very delicacy of its tissues — which are still healthy tissues — * * * for which we prize it."

6. Soraur, P. Pflanzenkrankheiten, vol. II, pp. 422-423, second edition, 1886.—Gives botanical characters of Gloeosporium genus and states in substance the description of Gloeosporium Lindemuthianum as given by Frank.

7. Penzig, Dr. O. "Studi Botanici Sugli Agrumi e Sulle Piante affini, Ann. d. Agria., 1887, plate XXXVIII, figures 3 and 4, p. 384, has figured and described Colletotrichum gloeosporioides, and so far as can be judged from the illustrations the fungus has every generic characteristic of that upon the bean. In his Funghi Agrumicoli, 1882, p. 66, figure 90, Penzig described the same fungus as Vermicularia gloeosporioides." The above reference is quoted from the 1887 report United States Department of Agriculture, p. 864.

8. Scribner, F. L. Anthracnose of the bean.— Gloeosporium Lindemuthianum, Sacc. and Magn., Report of Section of Vegetable Pathology in United States Department of Agriculture Report, 1887, pp. 361-364, with colored plate of diseased pods, acervulus, conidia and sections of diseased spots on the pod. Under general observations states that this fungus attacks water melon rinds. Gives external characters of the disease on the bean, conditions favoring the disease, botanical characters and suggestions for treatment. Notes the presence of setae in the acervuli and remarks that if these prove an organic part of the fungus the classification will probably be charged to Colletotrichum Lindemuthianum.

9. ————————. Anthracnose of the bean.— Colletotrichum Lindemuthianum, Orchard and Garden, vol. xi, pp. 193-194, Little Silver, New Jersey, October, 1889. Refers to the article in the 1887 Report of the United States Department of Agriculture, just quoted, and adds observations on the injury caused by the disease. States that field beans are subject to its attacks and no varieties of "string" beans are exempt, not even those with green pods. Notes again the presence of setae in the acervuli, "the presence of which separates our fungus from the genus Gloeosporium under which it has heretofore been classed and places it in the genus Colletotrichum, the name here adopted." Gives suggestions as to treatment. The article is illustrated with two figures, one showing a diseased pod, the other the microscopic appearance of the fruiting fungus.

10. Briosi and Cavara.— Colletotrichum Lindemuthianum (Sacc. and Magn.). Briosi et Cavara. I Funghi parasiti della

pianti coltivate ed utile, No. 50, Pavia, Italy, summer of 1889. They refer to Scribner (see No. 8) stating that he first noticed the setae but as they find these setae constantly present they decide to change the generic name to Colletotrichum.

11. Galloway, B. T.— Anthracnose of the bean.— Bulletin No. 8, Botanical Division United States Department of Agriculture, 1889, p. 65. Replies to letter of inquiry from New Orleans, La., regarding this disease and states the cause suggesting remedies. On page 64 of the same bulletin this fungus is noted as destructive to melon leaves in North Carolina where it is called "melon rust."

12. Kirchner Oskar.— Die Krankheiten und Beschadigungen unserer Landw. Kulturpflanzen, p. 77. Stuttgart, 1890. Gives a brief statement of the appearance of Gloeosporium Lindemuthianum, Sacc. and Magnus, on bean pods and young seeds. Recommends if possible planting in dry airy situations.

13. Halsted, B. D. Fungi injurious to garden crops.— Ohio State Horticultural Society report of meeting, December, 1890. Mentions colletotrichum lindemuthianum as causing "bean spot" and states that it probably also causes "melon rot."

14. ——————————. Anthracnose in bean seeds.— Garden and Forest, vol. V, p. 18, 1892. States that "It is certain that colletotrichum lindemuthianum can exist from one season to another in the mature beans and when these diseased seeds are planted the best possible condition is given for perpetuating the disease." It is recommended that before planting the seed be soaked one hour in a solution of three ounces of copper carbonate, one quart of ammonia, and four and a half gallons of water.

15. Beach, S. A. Anthracnose of bean, Country Gentleman, vol. LVII., p. 88, 1892. Notes the development of the disease from blistered beans which though blistered were not noticeably discolored. Suggests treating the seed by soaking as recommended by Dr. Halsted in Garden and Forest of January 13, 1892.

16. Frank and Sorauer. Pflanzenschutz, p. 62, Berlin, 1892. Paul Parry. A short note on treatment of bean anthracnose states that with pole beans copper salts are effective as a remedy

if applied early. An excellent figure illustrates the appearance of the disease on affected pods.

Professor L. H. Pammel, E. G., Lodeman and D. G. Fairchild have kindly assisted the writer in compiling the above references.

Bean Blight.

In the article on bean anthracnose reference was made to a bacterial disease which in some cases is even more destructive to beans than anthracnose. In the kitchen garden at this station it was very destructive during the past season. It developed into a serious malady about the first of August and did the most damage during the hot weather of that month. A plat of wax beans was the first to be badly affected and the plants were ruined within a few days after the serious nature of the disease first attracted attention. The foliage became spotted and yellowed in large areas of the leaf surface and soon the leaves withered and fell away. Many of the pods contained soft or watery spots, showing the presence of the disease, or they became withered from lack of nourishment after the foliage was destroyed. From these beans the disease spread to an adjacent plot of a different variety and it also was soon completely ruined.

In its early stages this blight forms small pimples which have a watery appearance. These may occur on the pods, blossoms (?) foliage or stems. They may or may not have a dull red border but do not have either the black color or the sunken spots which characterize anthracnose. Microscopic examination in the early stages of the blight failed to reveal the presence of any mycelium but bacteria were always present. In later stages saprophytic fungi gained entrance through the diseased places and hastened the destruction which the bacteria had inaugurated.

The question suggested itself whether the blight might not be an accompaniment of the anthracnose attacking the tissues already parasitized by the fungus. The question was answered in the negative by the fact that in one field blight was found everywhere present on Mexican tree beans while no trace of the anthracnose could be found on any plants of this variety though they were growing adjacent to red kidney beans, which were attacked by the anthracnose. At the close of the season Mr. J. W. Stepfield, of Horseheads, N. Y., in whose field these things were noticed, reported that the anthracnose did not appear on the Mexican tree beans at all during the season.

This blight affects the foliage and pods as before stated and also affects the beans within the pods. Some of the pods fail to ripen while others which mature, produce beans that are discolored by the disease or wrinkled or disfigured with rough spots. It is possible that the blight may be communicated to the crop of the following season in the seed, as is probably the case with the blight of lima beans, and therefore all blemished seed should be rejected when planted. Whether this blight on the common beans, Phaseolus vulgaris, L., is identical with the one next described as attacking Lima beans is a question not yet decided. The subject is under investigation and the results will probably be noted in a subsequent report.

Blight of Lima Beans.

A bacterial disease occurs in Lima beans and forms definite characteristic spots on pod and leaves, especially in its earlier stages. These spots differ in appearance from those formed by the blight on Phaseolus vulgaris, but whether the difference in appearance is due to the influence of the different host plants, and the blight in both cases is due to the same germ has not been decided. Probably the two diseases are distinct. Figure 8, from a photograph, shows the characteristic spots on leaves and pods of Lima beans. So far as noticed, these spots are never black, but often have a reddish purple border inclosing an area of a light red color. On the leaves the spots gradually increase in size and develop a straw-colored center of dead tissue. Sometimes the centers of the spots on the pods also become straw colored. In the station garden this blight did considerable damage, and on October 10, it was almost impossible to find a Lima pod free from the disease.

A study of the blight has been made in the laboratory in the following way. The germ was first isolated by means of plate cultures. It was then transferred to various nutrient media and from the latter cultures inoculations were made on healthy pods kept in moist chambers. Those inoculations produced decay at the spots where the virus was introduced, while punctures made at the same time, but not inoculated, showed no signs of decay. The germ grew less rapidly on pods of wax or kidney beans kept in moist chamber and had but slight effect on the seedlings of Phaseolus vulgoeris when applied to the unbroken epidermis. The tests thus far made indicate that the blight of Lima beans may be propagated by planting the diseased seed. The only treatment at present recommended is the selection of healthy seed.

Bean Rust.

Uromyces Phaseoli (Pers.), Winter.

Figure 9 gives an illustration of the true rust of the common field or garden bean, Phaseolus vulgaris, L. as it appears on the leaves and pods. It may be found also on the stalks and petioles. So far as is known from our investigations, it is not nearly so destructive to beans as either the anthracnose or the blight and it is so distinct from them that a careful observer will at once recognize the difference. It certainly assumes importance in some localities, for Dr. Halsted includes bean rust in the class of "Worst Fungi of Garden Crops."* On certain plots of beans grown at this station during the past season the rust was very abundant, but the attack came quite late in the season and the foliage suffered but slightly as compared with the injury to other plots from blight and anthracnose. This disease was seldom found on the pods and did no perceptible injury to them. Specimens of the fungus were submitted to Professor George F. Atkinson, who reported that "the speciments of Uromyces on Phaseolus vulgaris, L. I find on comparison to be the Uromyces appendiculatus (Pers.) Lev. It agrees with specimens in Rabenhorst's Fungi Europaei marked No. 1292, U. appendiculatus (Pers.), Lev., and No. 2168 U. Phaseolarum (Wall.), DBy, a synonymous species. Probably the question as to what the name is is one of synonymy. Uromyces Phaseoli (Pers.), winter,§ is probably the name that should be used.

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* Proceedings New Jersey Horticulture Society, winter meeting, 1889-90.

§ Die Pilze, bd. I., p. 157, Winter's Rabenhorst's Kryptogamen Flora.

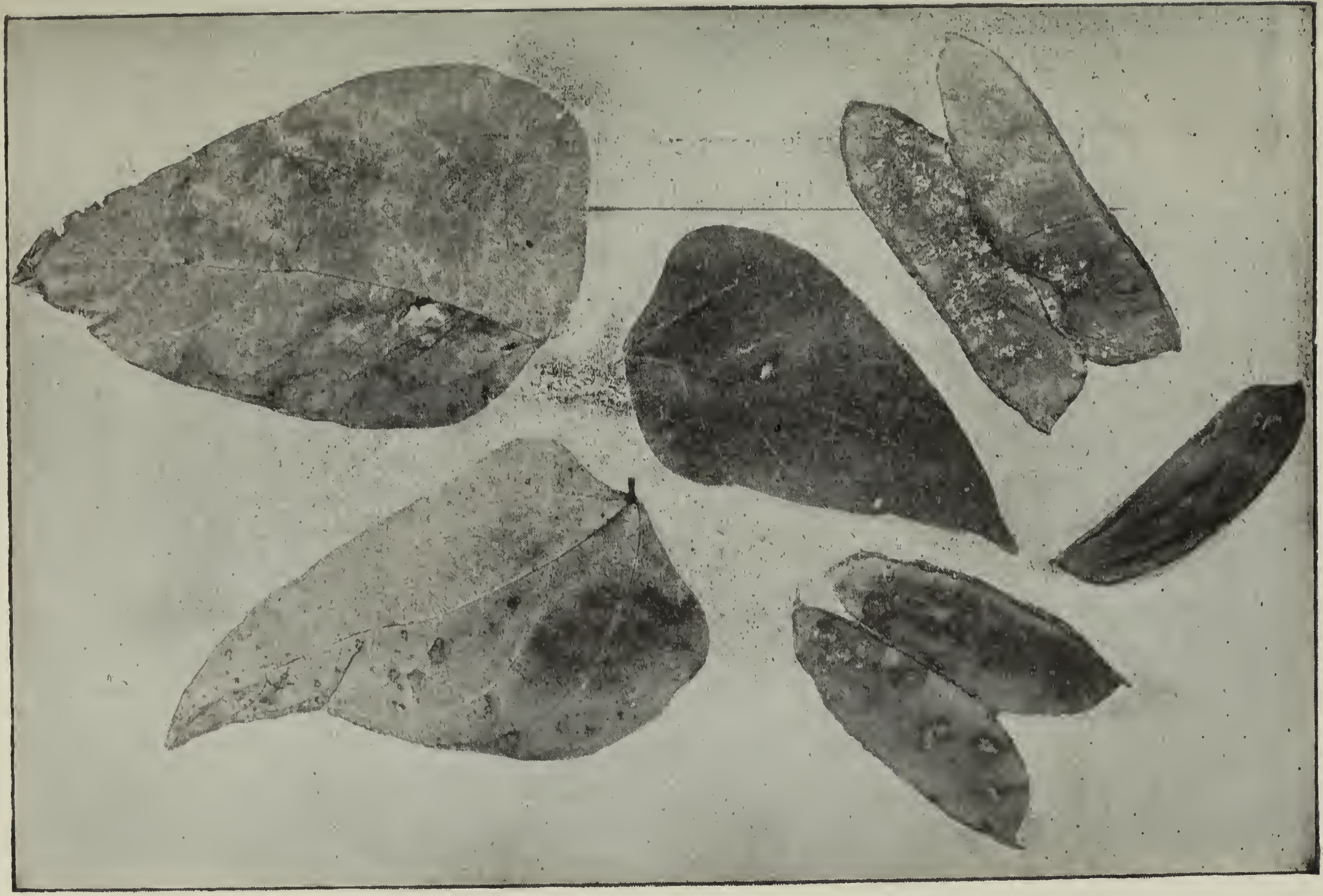

FIG. 8.—Bacterial blight on pods and leaves.

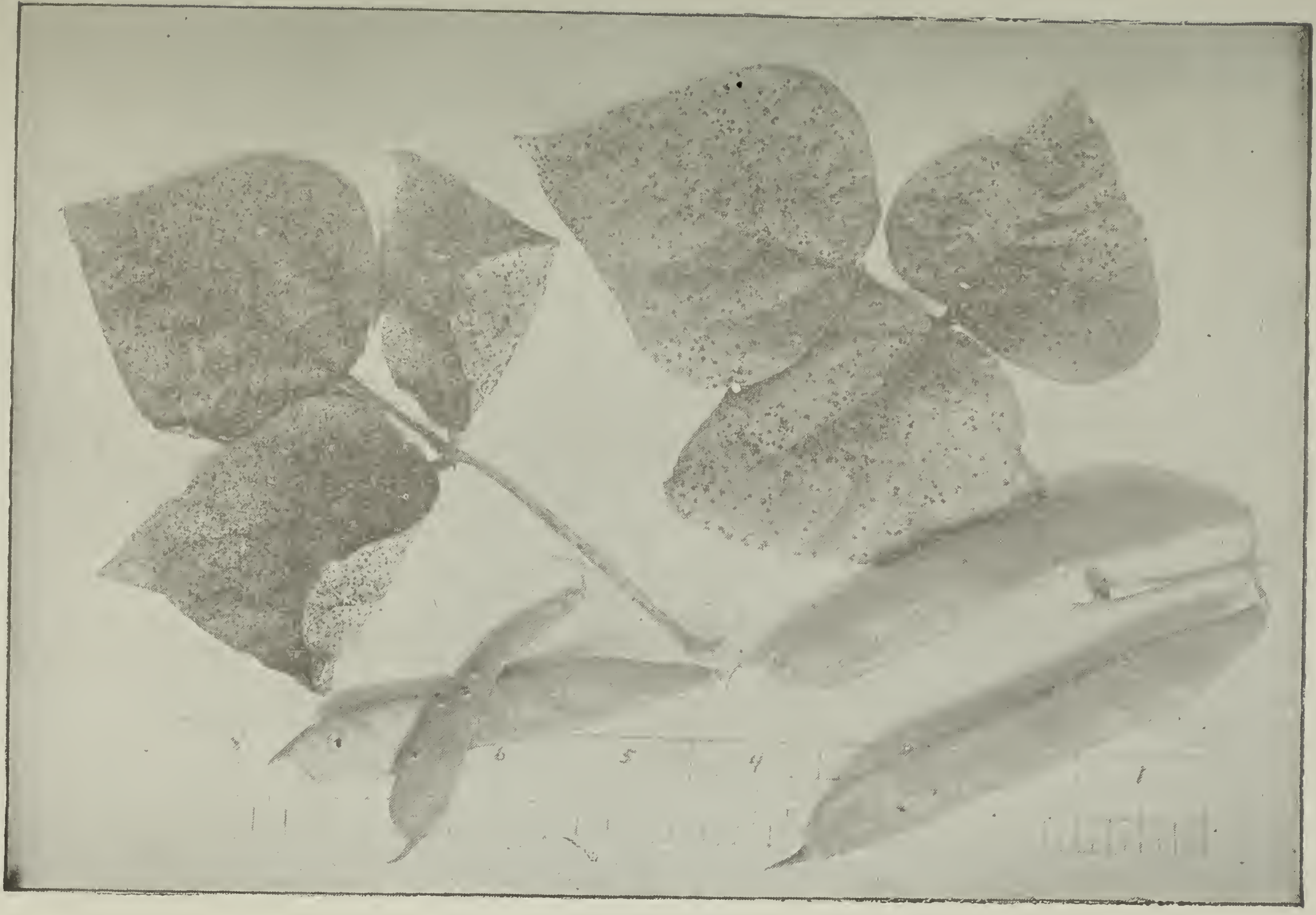

FIG. 9.— Bean rust (Uromyces Phaseoli) on pods, stems and leaves.

On the foliage the bean rust first forms little brown spots nearly circular in outline about as large as pin heads. These break out all over the leaf on either surface, and the spores produced in them are soon discharged as a rusty brown powder. After an indefinite time these spots change in color from brown to black and produce spores of larger size and different shape and texture. It frequently happens that one leaflet is sprinkled with the brown spots while its companion on the same leaf stalk is covered with black spots or both kinds of spots may be found on one leaflet. This is not strange since the different colored spots represent different stages of the same disease. The dust which they discharge is composed of spores which have the same function as do the seeds of higher forms of plant life, namely, the propagation of the species.

The fungus grows inside of the leaf for sometime before the rust spots break out and the need of treating the disease is not realized till the rust spots appear. It is then impossible to destroy the fungus without killing the foliage with it. We are not aware that any experiments have been tried for the purpose of controlling this disease and, therefore, no recommendations as to treatment of bean rust are made at present. It is not known to live over winter in the seed. Probably it winters in the rusted leaves as is the case with wheat rust, which resembles bean rust in its botanical characters.

Experiments in Treatment of Potato Scab.

Experiments were conducted during 1892 both at the station and in co-operation with Mr. C. E. Chapman, of Peruville, N. Y., for the purpose of investigating the following questions:

1. To what extent can potato scab be prevented by treating the seed with fungicides?

2. Is spraying the seed and the surrounding soil as effective in preventing scab as soaking the seed before planting?

3. What are the comparative merits of different fungicides for the prevention of potato scab?

General observation will confirm the statement that, under favorable conditions, the scab fungus will live from year to year in the soil. Such places are known to produce a scabby crop whenever they are planted to potatoes. Sometimes they become so badly infested with the scab that they are no longer planted with potatoes on that account, thus showing that the soil has become permanently infected with the scab fungus. In the following pages such soil will be referred to as "infected" soil, meaning that it is infected with the potato scab fungus. So far as our observation goes, badly infected soils are usually found on the former site of a cattle yard, door yard or kitchen garden, or, perhaps, where a portion of a straw stack has rotted, or in some such location where the soil has been abundantly enriched and successive crops of potatoes grown.

In planning the work with potato scab for the past season it was decided to secure, if possible, some thoroughly infected land for a portion of the experiments, in order to give the proposed remedies the severest possible test. Through the courtesy of Mr. C. E. Chapman, of Peruville, Tompkins county, N. Y., a piece of such ground was offered, free of charge, for this work, and Mr. Chapman, who is an experienced potato grower, and who also appreciates the necessity of very careful work in conducting such experiments, personally attended to the preparation of the soil and assisted in all the details of the experiments at his place.

The ground selected at Peruville served as a dooryard years ago. It has been planted to potatoes repeatedly, but finally has been abandoned for this purpose because the crops were invariably so scabby as to be nearly or quite unmerchantable.

Similar experiments were carried on at this station on more favorable ground, which was not known to be infected with the scab. By means of these duplicate experiments it was possible to compare the proposed remedies on favorable and unfavorable soils. Two methods of using the remedies were tried, namely: (1) By soaking the seed before planting, and (2) by spraying the soil and seed at planting time. In every experiment, and in the rows left untreated for comparison, scabby tubers were used for seed so as to give the treatments a more thorough test.

These experiments show that, under certain conditions, potato scab can be largely prevented in a practical way. On badly infected ground, on "scabby ground," if you please, no treatment was of any practical benefit. The failure was not in every case a complete one, but no practical advantage resulted from the treatment. On the more favorable soil at the station a decided advantage resulted from some of the treatments, chiefly from zinc sulphate (white vitriol), iron sulphate (copperas) and mercuric chloride. These investigations confirm, in a measure, both the work of Bolley,* who found beneficial results from soaking the seen in mercuric chloride, and of Kinney, § who found that Bordeaux mixture sprayed on the soil and seed at planting time lessened the amount of scab in the crop.

It should be borne in mind that lessening the amount of scab on the immediate crop is not the only advantage arising from treating the seed with fungicides, for, if the fungus once becomes established in the soil, it may live there from year to year, and it is, therefore, wise to take care not to introduce the disease into uninfected soils. Tubers selected from a scabby crop, though apparently smooth, may contain microscopic germs of the disease, and ought, therefore, to be disinfected either by spraying or soaking with some fungicide before they are planted. The same may be said of purchased seed of unknown origin. The cost of treating the seed is slight, and the operation does not require much labor.

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* Bull. 4, North Dakota Experiment Station, December, 1891.
§ Bull. 14, Rhode Island Experiment Station.

The following preventive measures are also recommended:

1. Select soil free from the scab fungus if possible. No treatment is known which will insure a crop of smooth tubers on infected soil.

2. Plant only clean, smooth seed.*

3. Scabby potatoes or scabby beets § should be thoroughly cooked before being fed to stock in order to prevent the fungus from being disseminated with the manure. ||

4. The relation of soil conditions to the development of potato scab received considerable attention before the real cause of the trouble was known. In Beckwith's experiments at this station, excessive moisture favored the development of the dis-

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* In experiments conducted by Thaxter, scabby seed very greatly increased the number of diseased tubers produced. See Annual Rep. Conn. Expt. Station for 1891, p. 157. See also Beckwith in report of this station for 1889, p. 310.

Bolley gives an excellent discussion of this point which leads to the following statement based on abundant experimental evidence: "Scabby or disease-bearing seed tubers can and will under ordinary circumstances produce a diseased crop." See Bulletin No. 4, North Dakota Expt. Station, December, 1891.

§ In the bulletin just quoted, Bolley states that potato scab also attacks the various varieties of beets.

|| Thaxter says he is convinced "that the practice of feeding scabby tubers to stock is one of the most important means by which the disease is spread on farms. In view of the well-known fact that great numbers of fungus spores can and do pass through the digestive tract without injury, and that the scab fungus is known to grow luxuriantly in decoctions of horse or cow dung, it is not unreasonable to assume that its spores, passing through the digestive tracts of stock fed with diseased potatoes, continue their development in the manure after evacuation." See Annual Report Conn. Expt. Station for 1891, p. 158.

Kinney states "stable manure scattered in the furrows at time of planting is favorable to the development of the disease." Bull. 14, Oct., 1891, Rhode Island Expt. Station.

In view of the nature of the disease Thaxter's conclusion on this point seems better than the more positive statement just quoted. He says: "Barnyard manure which has not been contaminated by the scab fungus may not materially increase the amount of scab."

Hexamer observed that under the *exclusive use* of commercial fertilizers scab almost entirely disappeared while under the *exclusive use* of barnyard manure the amount of scab increased. See American Agriculturist, Vol. LI, p. 172.

Humphrey states that "potatoes raised on barnyard manure were markedly more scabby and more deeply scabbed than the rest." See Annual Rep. Mass. State Expt. Station for 1889, p. 219.

Green finds that the use of barnyard manure as a potato fertilizer has increased the yield, but not always the total marketable product, because of the prevalence of potato scab. See Bulletin Ohio Expt. Station, January, 1890.

ease * and Humphrey § states that light, open, thoroughly drained soil seems to be less favorable to the development of the disease than does heavy, damp soil. But, in the bulletin referred to, Bolley well says: "There is no substantiated evidence that any soil of whatsoever kind can in itself give origin to the disease. That certain characters in a soil may increase the capabilities of the disease to work damage, is possible. The point, however, is not proved, and even if it were, it need not militate against the use of any particular kind of soil, if care is taken to avoid the first cause, the plant parasite. The same argument holds for the use of manures, though it is possible that barnyard manures may become contaminated from refuse matter containing the disease and thus become a source of infection."

5. If the presence of scab is suspected, dig the potatoes as soon as they are mature. ‖

Manner of Applying the Fungicide.

Regarding the question whether (2) spraying the seed and the surrounding soil at planting time is as effective in preventing scab as simply soaking the seed before planting, our investigations indicate that under the conditions of these experiments the former method was more successful than the latter, but the treatment is somewhat more laborious and takes more material. This opinion is based chiefly on the results of the experiments at the station, since on the Peruville soil the treatments had comparatively little effect. When the first method was used, the freshly opened furrow or hill was sprayed with fungicide, then after the seed was dropped, it also was sprayed and then covered. When the latter method was followed, the seed was soaked in the fungicide one and a half hours and then planted.

Comparison of Fungicides.

For the purpose of investigating the question (3) as to the comparative merits of different fungicides, seven fungicides were tested, namely (a) copper sulphate, (blue vitriol or blue stone), (b) iron sulphate (copperas), (c) zinc sulphate (white vitriol),

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* Annual report for 1887, p. 311.

§ Annual Report Mass. State Expt. Station for 1890, p. 220.

‖ Thaxter states that scab spots deepen as long as the tubers remain in the ground. See Annual Report Conn. Expt. Station for 1891, p. 159.

(d) eau celeste, (e) Bordeaux mixture, (f) mercuric chloride, (corrosive sublimate), and (g) ammoniacal solution of copper carbonate. The best results were obtained from the use of iron sulphate, zinc sulphate and mercuric chloride, but further experiments must be made before it can be definitely stated which of these is most effective. The formula for either the iron sulphate or the zinc sulphate solution is one ounce of the sulphate to one gallon of water. The mercuric chloride formula is, "Dissolve two ounces of the chloride in two gallons of hot water, let it stand several hours, or over night, then dilute to fifteen gallons." It should be remembered that the mercuric chloride is very poisonous. Only wooden vessels should be used in making any of these solutions. There is but slight difference in the cost of these three solutions — less than one cent per gallon in each case.

Nature of Potato Scab.

Since the cause of potato scab has been definitely determined, its treatment can be more intelligently studied. The very careful work of Dr. Roland Thaxter, at the Connecticut experiment station, and of Professor H. L. Bolley, of the North Dakota experiment station, has shown that the cause of potato scab is a parasitic fungus.

Regarding the question as to whether a distinction should be made between the so-called "surface" scab and "deep" scab, it will be sufficient for our purpose to quote Professor Bolley's statement* that the economic interest of the subject is essentially centered about the establishment of the fact that the general first cause of the disease is in parasitic plant action and his investigations go to show that the chief damage to the crop arises from the action of the fungus to which Dr. Thaxter has given the name ospora scabies.§ It appears that Dr. Thaxter's work || in 1891,

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*Bull. 4, North Dakota Expt. Station, December, 1891, p. 6.

§ Prof. Bolley states that "in order to understand the form which the scabs as such assume, one must keep in mind the structure of the potato tuber and *the effort always made by living tissues to heal a wound.* In plants this is most rapidly accomplished by the formation of bark rind or corky tissues composed of layers of tabular cells developed from the underlying soft tissues (parenchyma). The ultimate form which the scabs assume is the result of a continuous formation of layers of cork below the area of disease, because of the irritating and eroding action of the parasite. These later cork formations push up, distort and rupture the disease eaten parts above." See Bull. 4, North Dakota Experiment Station, December, 1891, pp. 8-9.

|| 1891, Annual Rep. Conn. Expt. Station, p. 159.

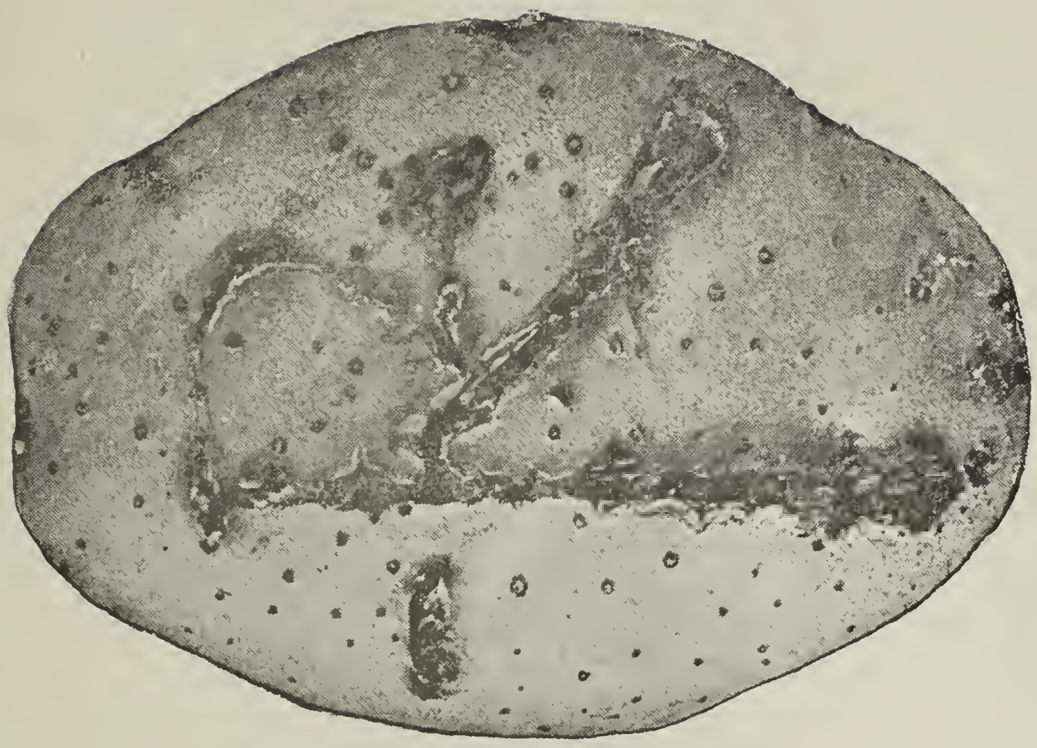

Fig. 1.

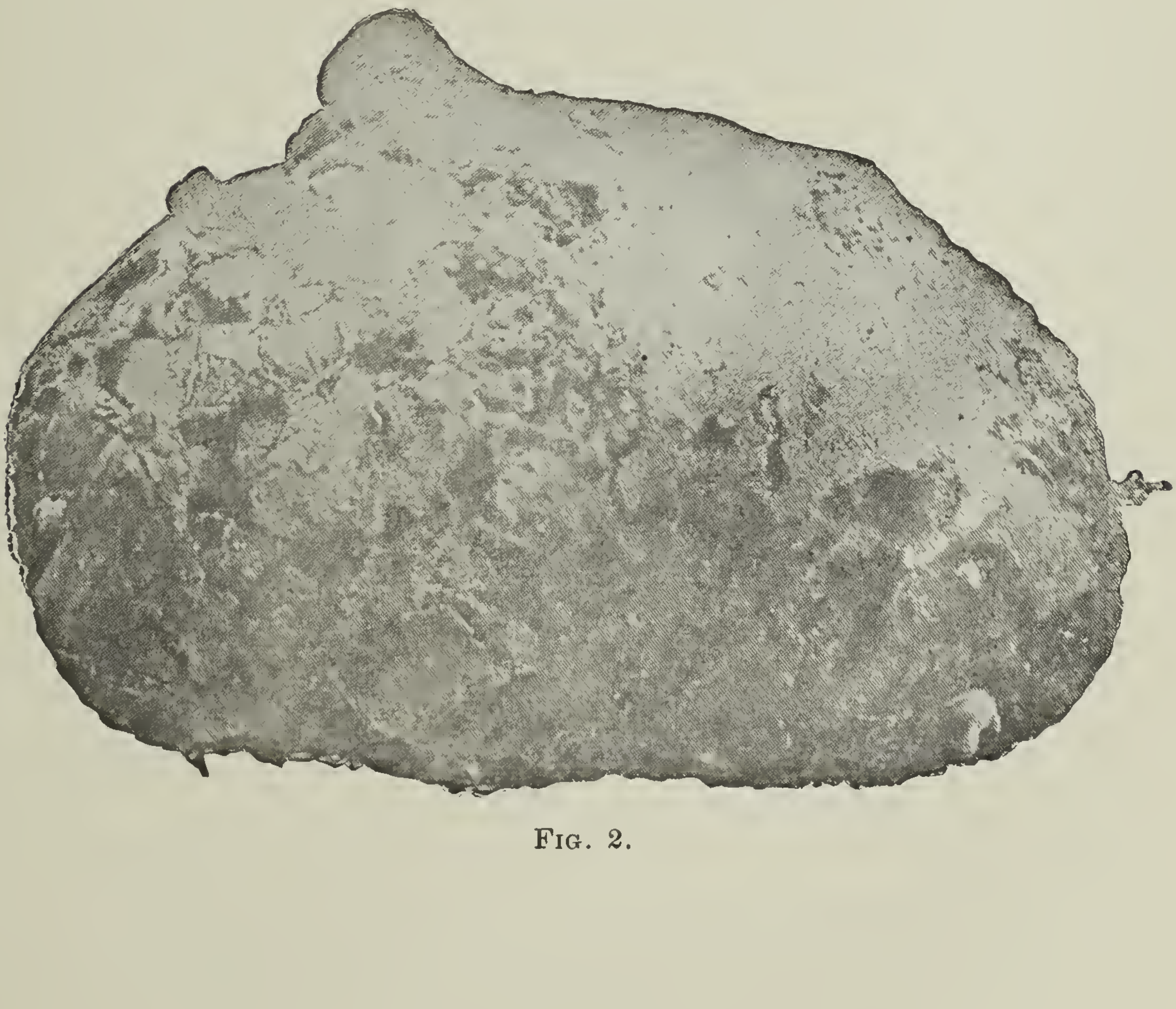

Fig. 2.

showing that this parasitic fungus causes potato scab, was confirmed both by his later investigations and by those of Professor Bolley, and the theories that the scab is primarily due to injuries resulting either from insect depredations or from excess of water in the soil, or from mechanical irritation, or from chemical action, or from the action of manure or other fertilizers, must be abandoned, and it must be conceded that these supposed causes influence the prevalence of the disease only in so far as they may furnish more valuable conditions for the growth or distribution of the fungus, which really causes the scab. Figure 1* illustrates, in a very interesting way, the results of one of Dr. Thaxter's inoculation experiments. From a pure culture the fungus was applied to the surface of this tuber in lines so as to form the monogram "R. T.," and so successful was the inoculation that the scab formed a nearly perfect monogram. Figure 2 illustrates a potato badly scabbed by the action of the fungus Oospora Scabies, Thax.

Details of Experiments.

As previously stated, two kinds of soil were selected for the experiments with potato scab during the past season, namely, at Peruville, soil so thoroughly infected with the scab fungus that whenever planted with potatoes it invariably produced a crop that was mostly so scabby as to be unmerchantable, and at the station, soil that was not known to be infected with the scab fungus. Scabby seed was selected for planting in both places, and alternate rows were always left untreated for the sake of comparison. In making up the following tables each treated row was compared with the untreated rows on each side of it, except in one or two instances where but one untreated row could be used for this purpose.

The experiments were planned so as to compare the effects of different fungicides applied in two ways. Series A includes all experiments in which the seed was soaked for one and a half hours in the fungicide before planting. Series B includes all experiments in which the freshly opened furrow or hill was sprayed with the fungicide; then the seed was dropped, the furrow or hill sprayed again and the seed covered. The fungicides were prepared as follows:

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* See Annual Report Conn. Expt. Station for 1890. Fig. 2, opp. p. 81.

a. Copper sulphate (blue vitriol or blue stone), one ounce dissolved in one gallon of water.

b. Iron sulphate (copperas), one ounce dissolved in one gallon of water.

c. Zinc sulphate (white vitriol), one ounce to one gallon of water.

d. Eau celeste.— Dissolve one pound of copper sulphate in water, and, just before using, add one and a half pints of ammonia and dilute to twenty-two gallons.

e. Bordeaux mixture.— Dissolve six pounds of copper sulphate; add a whitewash made from four pounds of fresh-slaked lime and dilute to twenty-two gallons.

f. Mercuric chloride (corrosive sublimate).— Dissolve two ounces in two gallons of hot water and let it stand several hours or over night; then dilute to fifteen gallons.

g. Ammoniacal solution of copper carbonate.—Wet five ounces of the carbonate with a little water; then dissolve in three pints of ammonia, twenty-six degrees, and dilute to fifty gallons.

In the following tables the per cent of scab* under each treatment is compared with the per cent of the scab in adjacent untreated rows.§

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* The amount of scab found on the crop when it was harvested cannot be correctly estimated by dividing the potatoes into two classes, "scabby" and "not scabby," because all grades of differences existed between the "not scabby" class of the different experiments, some being very much more scabby than others. After the potatoes were dug, therefore, they were washed and divided into four classes, (1) free from scab, (2) slightly scabby, (3) badly scabby but merchantable, and (4) unmerchantable. Then counting the amount of scab on the unmerchantable class as 100 per cent the amount of scab on class two was estimated as fifteen per cent as compared with class four, and the amount of scab on class three was estimated at thirty per cent as compared with class four. From these estimates the total per cent of scab in each experiment is easily computed, and the results affords a basis of fair comparison of the amount of scab present under each treatment.

† In series A there were planted twice as many rows at Peruville as at the station, and this was taken into account in computing the general average of all experiments, except with part of *f* and *g* which lacked the necessary rows for comparison.

TABLE I.

SERIES A.—SOIL AND SEED SPRAYED AT PLANTING TIME.

	STATION EXPERIMENTS.		PERUVILLE EXPERIMENTS.		AVERAGE OF ALL EXPERIMENTS.	
	Treated.	Untreated.	Treated.	Untreated.	Treated.	Untreated.
a Copper sulphate.......	*	*	55.0	69.9	......	....
b Iron sulphate..........	42.7	63.8	89.5	86.2	66.1	75.0
c Zinc sulphate	26.8	63.8	92.5	90.9	70.6	81.9
d Eau celeste............	45.2	58.3	92.9	93.2	77.0	81.6
e Bordeaux mixture.....	44.2	50.1	91.0	94.3	75.4	79.6
f Mercuric chloride	13.5	40.9	86.5	93.1	50.0	67.0
g Ammoniacal solution of copper carbonate....	37.8	40.6	91.1	87.0	64.4	63.8

SERIES B.—SEED SOAKED BEFORE PLANTING.

	STATION EXPERIMENTS.		PERUVILLE EXPERIMENTS.		AVERAGE OF ALL EXPERIMENTS.	
	Treated.	Untreated.	Treated.	Untreated.	Treated.	Untreated.
a Copper sulphate.......	*	*	97.2	96.7	......	....
b Iron suphate..........	26.9	49.5	88.1	93.8	57.5	71.4
c Zinc sulphate	34.6	49.5	‡58.4	92.1	46.5	70.8
d Eau celeste............	†	......	†	......	......	....
e Bordeaux mixture ...	22.9	34.9	93.1	97.5	58.0	66.2
f Mercuric chloride	15.1	34.9	96.5	97.7	55.8	66.3
g Ammoniacal solution of copper carbonate	*	*	98.0	98.5	......	....

* Results were unfortunately vitiated.

† Treatment killed the seed.

‡ A comparison with other untreated rows indicates that the soil of this experiment might have been less thoroughly infected than it was in the untreated rows with which it must be compared.

On much of the ground used in the Peruville experiments every fungicide tested proved either utterly or practically useless, whether the seed was soaked or sprayed, so that when these results are included in the average results of all experiments the per cent of injury from the scab is much higher and the apparent effect of the treatment is less marked than is the case with the experiments on other soil.

It will be noticed that, at the station, the treatments apparently lessened the amount of the scab in every instance. The difference in the per cent of scab, comparing the treated rows with corresponding untreated rows, is given in the following table. Experiments in which there was more scab in the treated than in the untreated rows are indicated by a (*). It will be noticed that this occurred in none of the station experiments and in but few of the Peruville experiments.

TABLE II.

	Series A.			Series B.		
	Station experiments.	Peruville experiments.	Average of all experiments.	Station experiments.	Peruville experiments.	Average of all experiments.
a Copper sulphate.......	†	14.9	......	†	*0.5	....
b Iron sulphate..........	21.1	*3.3	9.9	22.6	5.2	14.0
c Zinc sulphate	37.0	1.6	11.3	13.1	‖33.7	24.3
d Eau celeste............	13.1	0.3	4.6	......	......	‡
e Bordeaux mixture.....	5.9	3.3	4.2	17.9	4.4	8.2
f Mercuric celoride.. ...	27.4	6.6	17.5	19.8	1.2	10.5
g Ammoniacal solution of copper carbonate	2.8	*4.1	*0.6	†	0.5	0.5

† Results unfortunately vitiated. ‡ Killed by the treatment. ‖ See note Table I.

Taking all things into consideration* it appears that in series A, where the soil and seed were sprayed, an average of all experiments shows that the use of mercuric chloride gave greatest freedom from scab, but in the station experiments alone, where the differences in the results were less liable to be due to variation in the amount of the scab fungus in the soil, the zinc sulphate treatment gave apparently the greatest freedom from scab, followed by mercuric chloride and iron sulphate, in the order named. Copper sulphate lessened the amount of the disease, but also lessened the yield. Eau Celeste, Bordeaux and ammoniacal solution of copper carbonate had little value at the strength used.

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* Before attempting to draw any conclusions from these tables it will be well to examine the first table with reference to the variation in the amount of scab in the untreated rows. It will be noticed that the amount of the scab in the untreated plots at the station varied from 40.6 per cent to 63.8 per cent in Series A and from 34.9 per cent to 49.5 per cent in Series B. notwithstanding the fact that they were very near to each other. The average of the untreated plots in all experiments as seen by the same tables shows a variation from 63.8 per cent to 81.9 per cent in Series A and from 66.2 per cent to 71.4 per cent in Series B. Probably this variation in the amount of scab in the untreated rows is partly due to the varying scabbiness of the seed and to the varying amounts of the scab fungus present in this soil. It is necessary to bear these things in mind when considering the comparative merits of the different fungicides as apparently shown in these tables. On the other hand it may be said that the treated rows were always compared with adjacent untreated rows so as to avoid, as far as possible, untrustworthy comparisons; this together with the fact that the experiments were all duplicated and some in Series A were tested in three separate plots, and that Series B also duplicated Series A in the kind and strength of the fungicides used, renders the results of considerable value.

Turning now to series B, where the seed was simply soaked in the fungicides before planting, an average of all the experiments shows that zinc sulphate was apparently most successful, possibly due, in part, to favorable soil conditions, but the results obtained at the station alone, where the soil conditions seemed to be more uniform, indicate that iron sulphate was most effective, followed by mercuric chloride, Bordeaux mixture and zinc sulphate in the order named. There were some indications that Bordeaux mixture slightly injured the yield, and this was also noted in preliminary greenhouse experiments. Eau Celeste, copper sulphate and ammoniacal solution of copper carbonate had little or no effect at the strength used. These apparent discrepancies in the results may be due to the fact that the amount of the scab present in the soil or seed was not uniform in the different rows, as shown by the variation in the amount of scab in untreated rows.

It should be remembered that, as previously state, these experiments were planned so as to give the proposed remedies the severest possible tests, therefore scabby seed was selected for each experiment and part of the experiments were conducted on badly infected ground. It is reasonable to suppose that much more favorable results could be obtained by avoiding infected soil, by selecting smooth seed, and by using all the precautions mentioned in the former part of this bulletin.

Bordeaux Mixture Used to Prevent Potato Blight.

Continuing the work of last year, we have satisfied ourselves and a large number of farmers of the efficacy of the Bordeaux mixture as a preventive of potato blight, and hope to demonstrate the practicability of using this mixture by showing the cheapness of the application and the value of the crop saved. In previous writings (Tenth Annual Report, page 487, Bulletin 41, p. 46) it has been suggested that the Bordeaux mixture could be used in connection with Paris green or London purple, and the tests made this year clearly prove the desirability of doing so. When one considers the absolute necessity of fighting the potato beetle with one of the arsenites, either in water or mixed with ashes, land plaster or some other like substance, it is evident that if water is the agent through which the arsenites are distributed the cost of applying the Bordeaux mixture is reduced to the actual cost of the ingredients and the labor of mixing them. As the Bordeaux mixture is simply a preventive, not a curative, and as the disease is liable to make its appearance at any time when the atmospheric conditions are suitable, it is recommended that the application of the mixture begin soon after the vines begin to grow, certainly as soon as the usual time of applying Paris green. For the first two sprayings the mixture can be reduced to one-half the standard strength, i. e., six pounds of sulphate of copper and four pounds of lime to forty-four gallons of water. As four sprayings should usually be made, it would be advisable to make the last two of full strength, as at the time they are usually applied the conditions are generally such that if the disease obtains a foothold it quickly spreads over the entire field, unless the presence of copper acts as a bar to its further progress. As mentioned before (Bulletin 41, p. 45), the conditions which are favorable to the development of the blight are excessive rainfall, accompanied by an average temperature of below seventy-five degrees Fahr.,* conditions which often prevail during the month of September. During the past season experiments have been made to find some substance which, added to the Bordeaux mixture, would cause the mixture to adhere to the foliage, thus lessening the number of times necessary to spray; and it was found that when soap was added to the Bordeaux mixture applied to beans as a preventive of the bean anthracnose (Bulletin 48, pp. 314, 315), the result was that the mixture spread in a thin film over the leaf surface and remained visible for weeks after the application was made. The amount of soap used was, in this case, one pound of bar soap dissolved in hot water and added to eight gallons of the mixture.

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* Prof. F. L. Scribner, Tennessee Report, 1889, pp. 34, 35.

M. Girard, a French scientist, recommends the use of molasses, at the rate of five pounds to twenty-two gallons of the mixture (Gard. Chronicle, July 16, 1892, p. 71); also, in Gardeners' Chonicle, March 12, 1892, p. 339, is the statement that the saccharine copper-lime compound (probably the same as above) resists the action of rains in a remarkable degree.

These observations show that some substance may probably be used in the future to obviate the frequent spraying. As the cost of spraying an acre of potatoes four times will vary with the mode of application and the cost of labor, the following table (No. 1) will enable one to estimate the expense. It will be understood that there is a vast difference between the cost of applying the mixture with a sprinkling pot or an automatic pump. Our estimate is based on labor at one dollar and thirty-five cents a day, using a knapsack sprayer and a Vermorel nozzle, spraying two acres a day, and using about ninety gallons of mixture per acre. The first two sprayings will not require this quantity of liquid if economy is used in applying it and the latest improvements in nozzles used. In treating large plantations, the cost can be reduced very materially if a geared pump is used with horse power, or increased to an unprofitable amount if applied with a watering pot in a wasteful manner. The copper sulphate can be bought by the quantity for about six cents per pound, and the lime for about one-half cent per pound. It will be seen that table No. 1 gives an estimate of about six dollars per acre, for four sprayings. Other investigators have estimated the cost at from five to ten dollars, always with results that more than compensate for the outlay. The Vermont station saved, in 1890, the enormous amount of seventy-nine bushels per acre, by two sprayings (Vermont bulletin No. 24, p. 29). The Rhode Island station increased the crop the same year forty-eight per cent (Third Annual Report Rhode Island Station, p. 145). The results obtained at this station for the past two seasons confirm the results of others and justify the statement that those who lose a crop of potatoes through neglect to spray, simply broadens the avenue towards profit for the grower who practices spraying. Table No. 2 gives the results of an experiment in spraying on a one-half acre plat of one variety of potatoes. Each row, both treated and untreated, ran the full length of the plat, causing equal conditions as to soil for both treated and untreated vines. Every fifth row of this plat received four sprayings between July second and September twenty-first. By referring to this table, it will be seen that the sprayed portion contained nearly 1,000 more merchantable tubers per acre than the untreated portion, with practically the same number of small tubers. This is at variance with the results obtained here last year, and at other stations in numerous tests, in which cases the larger yield was obtained by the increased size of tubers, and not by the larger number of merchantable tubers. These results, however, do not affect the commercial aspect as an increase of forty bushels, as shown by table 2, well pays for the outlay of from five to eight dollars.

The United States department claim to have had as good results with Bordeaux mixture used at half strength, as with full strength, but the results obtained at this station favor the use of the full strength mixture for the last two sprayings.

TABLE I.

SHOWING COST OF SPRAYING PER ACRE.

	Copper sulphate at five cents per lb.	Lime at one-half a cent per lb.	Gallons of water.	Cost of labor.
1st. Spraying with Paris Green...... ...	$0 72	$0 08	88	*
2d. Spraying with Paris Green..........	72	08	88	....
3d. Spraying with Bordeaux, full strength	1 54	16	88	$0 75
4th. Spraying with Bordeaux, full strength........................	1 54	16	88	75
Total cost				$6 50

* The labor to be charged against spraying with Paris green.

TABLE II.

	Number of merchantable tubers.	Weight of merchantable tubers.	Number of small tubers.	Weight of small tubers.
		Lbs.		Lbs.
Sprayed, five rows	3,725	1,456	1,880	238
Estimated yield of tubers per acre	14,900	....	7,520	....
Estimated yield of pounds per acre	....	5,860	....	940
Estimated yield of bushels per acre	....	196⅔	....	15⅔
Untreated, fifteen rows	9,745	3,225	5,277	608–8
Estimated yield of tubers per acre	13,920	....	7,540	....
Estimated yield of pounds per acre	....	4,700	....	960
Estimated yield of bushels per acre	....	156⅔	....	16
Sprayed in bushels	....	196⅔	....	....
Untreated	....	156	....	....
Increase by spraying, bushels	....	40	....	....

Farmers' Institutes.

The annual Farmers' Institute for Suffolk county was held according to appointment in the court house at Riverhead on Monday and Tuesday, the various sessions being generally well attended. To be sure larger crowds have been present at previous institutes, but the weather was not very auspicious this time, and the fact that so many farmers turned out (the room being comfortably filled at most sessions) was strong evidence that Suffolk county people fully appreciate the State's aid to agriculture in this way. Monday morning's session was opened by Nat. W. Foster, who welcomed the State's force of instructors in a few well chosen words, and also gave a cordial greeting to the visiting farmers of the island. He closed by introducing Geo. W. Powell, the director. Mr. Powell in response spoke of the growing competition which Long Island farmers have to meet in the city markets, as the whole Atlantic coast has gone into the vegetable growing business. In view of this intense strife it is the more important that we understand our soil and its needs, as well as our seeds and fertilizers. Mr. Powell recognized the fact that conditions are different here from what they are out in the State, and for that reason had made up the program with special reference to the special lines of farming followed in this locality. Unfortunately some men expected were not able to be present, as they were in attendance at the meeting of the Western New York Horticultural Society, which was held this week at Rochester. Mr. Powell stated that our agricultural and horticultural products sold for $150,000,000 last year, though the amount might have been greatly increased if we had better understood how to rid ourselves of the various fungoid and other diseases, together with the blights, rusts and insects that interfere with the highest degree of agricultural success. A paper by Henry Hicks, of Westbury, followed upon "Landscape Gardening," many useful hints being given upon laying out a homestead. Points were given as to the proper methods to follow to get the best results by planting trees and shrubs. The speaker made the very good suggestion that too many evergreens should not be used, as it is desirable to get the cool breezes in summer and the sunshine in winter. His remarks were illustrated by a large chart, a number of large photographs of trees and shrubs also being exhibited. Speaking in connection with this matter Mr. Powell suggested that it would be a good idea to plant trees on fence lines about the farm, both for the shelter that they would afford the fields and for the value that would ultimately be in the trees themselves for timber. As showing what profit might be realized in this direction he cited the case of an Ohio man who was offered $100 each for three black walnut trees upon his farm. Young men should take the hint. A talk by C. L. Allen upon "Seed Growing" was the next feature of the morning. He thought the business of seed growing was one in which Long Island farmers might profitably engage, but it is of the utmost importance that the one who enters it should be faithful. The seedsmen can not look personally after all their contracts, and hence they must trust to the growers. The average return to the growers per acre for cabbage seed put out by the speaker was $174. The highest was over $400 and the lowest fourteen dollars. Herein is shown the difference between faithfulness and carelessness in attending to this important crop. Other varieties of seeds were suggested by Mr. Allen as being profitable to grow, among them being spinach, turnip, sweet corn and tomatoes. It may be added just here that a number of Suffolk county farmers know by experience that Mr. Allen's ideas in these directions are correct and that the seed business in these parts is steadily increasing.

The session of Monday afternoon began with President John S. Havens, of the Suffolk County Agricultural Society in the chair. Mr. Foster having presided in the morning. The question box was attended to first, a large number of questions having been deposited for answers. A query as to why cabbage seed can not be grown as cheaply here as in Europe drew from Mr. Allen the information that the labor cost was the only difference. Daily wages in the old countries where seed is largely grown average from thirty-four to forty cents. The growers over there are engaged in preparing for their crop when Long Island farmers are sleigh-riding and enjoying themselves in other winter amusements. In response to another question J. M. Lupton, of Mattituck, outlined the methods followed by growers in producing a crop of cabbage seed, and upon Mr. Powell's suggestion he dwelt further upon the principle of selection, giving hints as to what should be discarded and what retained in a field of cabbage being grown for seed stock. A perfect head is very desirable if the best results are to be obtained. The whole matter of selecting stock and growing a good crop of seed was happily summed up by Mr. Powell, who said the head upon the man is quite as essential as that upon the cabbage stalk. A query as to the average yield of onions drew from Geo. W. Hallock, of Orient, the statement that his average for the past five years has been as high as 700 bushels per acre. The first principal address of the afternoon was by A. R. Eastman, of Waterville, upon "The Value of Animal Manure in the Soil, and How to Obtain it." Mr. Eastman expressed himself as being always pleased to come to Riverhead, and it may be added parenthetically that Long Island farmers are always glad to see him. While he did not expect to tell our farmers how to carry on their special lines of agriculture, he had some general ideas gained from experience and from travel in Europe that might be of value here. Concerning the use of commercial fertilizers experience in the State has shown that it is better to use them in connection with some vegetable manure, with clover, for instance, T. B. Berry, of Ohio, raises 200 bushels of potatoes and forty bushels of wheat to the acre without fertilizers, but he is careful to plow under a good crop of clover frequently. The clover roots penetrate to a great depth and pump up elements of fertility that nature has locked away beyond the reach of ordinary grasses and vegetables. In European countries they have learned the lesson that if they desire to take good crops from the soil they must put something back upon it. The making of those old countries in an agricultural way has been the making and saving of every scrap of stable manure possible. He believes there are portions of Long Island where great benefits might be derived from larger dairies and the making of more stable manure than is obtained at present. Following this address there was a spirited discussion upon the fertilizer question. At one time there seemed to be a strong sentiment in favor of using stable manure and fertilizers combined, and again convincing testimony was given in favor of fertilizer alone. S. O. Benjamin, of Northville, said he was convinced that land can be improved by the exclusive use of commercial fertilizers. Perhaps the general sentiment is best expressed by the words of some of the representative farmers, who use all the stable manure they can get and fertilizers in addition. Geo. W. Hallock was next heard in "A Familiar Talk with Farmers of the County, and Discussion of Methods." He spoke of the advantage of keeping accounts, showing amount of produce sold and supplies bought during the year. In response to his query a few in the audience held up their hands to show that they did business in that fashion. Mr. Hallock said he had followed the custom for the past twenty years. The keeping of special accounts with single crops was also strongly recommended. By means of such an account he knows that it cost him thirty-two cents per bushel to raise potatoes during the past season. He plows all his land every year, and he doesn't figure on the amount of fertility drawn from it; he keeps putting the fertility back upon the soil in the shape of fertilizing materials of some kind. He uses stable manure and fertilizers. Stable manure may be kept all winter in large heaps if one is careful to keep the edges of the heap square and to drive teams over it frequently while the heap is being formed. Here is a way to save the value of manure, preventing waste by heating or leaching. As a closing thought the speaker urged farmers to raise their own seeds whenever they can possibly do so. Money can be saved by following this plan.

The features of Monday night's session that were of most importance were the paper by Nicholas Hallock, of Creedmoor upon "The Boy on the Farm," and Director Powell's address upon "Natural Science in Our Public Schools." Mr. Hallock asked his hearers to consider that the boy, soon to be a young man, is the most important factor on the farm. How to make the best use of the boy is a problem that has many different methods of treatment. Though many labor-saving devices have come to the boy's aid he still performs many duties on the farm, and a vital question is, how is he to be paid for all this and be kept happy and contented at home? It is a good plan to take an interest in his pleasures, and go fishing with him sometimes, if necessary. Boys so treated will do their work more cheerfully and be happier in every way. Answer the boy's desires for knowledge fully, and don't put him off impatiently. Remember that the working of a child's mind is best expressed by the interrogations, why? Why? Remember also that little things in early years may shape the child's life for all time. Too many school books are filled with abstruse problems that are of little use to the pupil in after life, and while no objection is made to a liberal education, it is desirable that we should have the fullest teachings in the line in which we are to win our bread from the soil. Let children become familiar with books that reveal nature in her manifold workings, for such lines of teaching tend to make home life on the farm attractive, and when the home has been made beautiful there is less desire on the part of the young people to leave it. It is very desirable that the young man should be taken in as a junior member of the agricultural firm, so that when the time comes he will be prepared to carry on the business alone. Lastly the child should be taught that the accumulation of money is not the great aim of life, that there is something nobler and better that counting his gain. Teach him that he should live for others as well as for himself, so that when called to give an account of his life he may be able to say, "I have fought the good fight and the victory is won." Director Powell in his address held that children educated in the public schools, should be able to answer many of these questions so important and interesting to agriculturists. They would be able to do so if instruction in public schools was made more practical. To accomplish this let the system of study be changed somewhat. For instance, drop four of six years devoted to English grammar, and let something having direct reference to the child's life work be substituted. Farmers' sons should have special training for their work, even as men are trained for other professions, such as law and medicine. If this plan was followed more extensively we should see greater profit coming from farm work, and a great stride forward in the business of farming generally. Mr. Powell took a blackboard and talked as he chalked. Sketching a number of well-known plants and insects he showed how easily teachers could make plain to children in common schools the first steps in natural science.

At the Tuesday morning session, in addition to the time profitably spent with the question box, two papers were presented by Mrs. Geo. F. Stackpole, of Riverhead, and Mrs. Simeon O. Benjamin, of Northville. Mrs. Stackpole discussed "Art and Science in Cooking," and Mrs. Benjamin gave points upon "Domestic Economy." Both papers were found to be extremely interesting by the audience, and were highly commended by gentlemen in charge of the institute as being full of common sense and practical hints for the household. The institute passed a vote of thanks to the ladies for their efforts in its behalf.

At the afternoon session on the last day the time was mainly occupied with a paper by F. E. Dawley, of Syracuse, who modestly entitled it "A Talk on Poultry." It was one of the most valuable discussions at the institute, as it gave the conclusions of one who has made a practical test of the poultry business and found it profitable. At the outset he sketched the development of the poultry business in recent years, showing how growers had progressed from old-time happy-go-lucky methods, when fowl were largely allowed to shift for themselves, picking up such stray bits of food as came in their way. The general tendency nowadays is toward more enlightened ways, but even now some farmers still pursue the old plan, and wonder all the time why their hens don't lay. If a little needed attention is given them, fowl will pay well on the farm, though it is desirable that their care should be intrusted to some member of the family who is in sympathy with them. It is well to have a separate building for the fowl, being careful to plan it so that it will not be smaller than sixteen by twelve feet for each twelve fowl to be housed. In the south side place a window of twelve lights for each eight feet, but don't use too much glass. A mistake is sometimes made in this direction, people failing to realize that glass is a good conductor of cold as well as heat. Be particular to have the roosts and nests movable, so that they can be taken outside frequently and cleaned. It is a good plan to sprinkle the droppings twice a week with common field plaster, as this changes the ammonia into sulphate of ammonia — the best possible form of that valuable fertilizing element. Get the flock as nearly uniform as possible as to breed, etc., for each breed has its characteristics, and somewhat different treatment is required as to feeding and the like. If your trade demands white-shelled eggs, keep Minorcas, Leghorns and Spanish or Hamburgs. If your customers want brown-shelled eggs, however, keep Plymouth Rocks, Wyandottes, Brahmas, Cochins and Langshans.

Wheat is the best grain to use alone as an egg-producing food. Also clover hay is extremely valuable, since it is rich in nitrogen, which enters very largely into the egg's formation. If the fowl are not housed warmly in winter it will be necessary to feed them corn considerably to keep up the supply of animal heat. An abundant supply of pure water should be kept for the use of poultry. How important this is the analysis of the egg shows, about sixty-five per cent of its substance being composed of water. Here is a ration for feeding poultry that Mr. Dawley recommends: One hundred pounds coarse bran, eighty pounds yellow meal, 100 pounds ground oats, thirty pounds linseed meal, ten pounds ground charcoal. Let this ration be mixed with steamed and chopped clover hay. Give cut meat or vegetables at noon and mixed grain at night. That Mr. Dawley has found out how to procure eggs in the winter is shown by his statement, in response to a question, that on a week ago Monday, the last record he has received from his farm, 163 eggs were obtained from 283 laying hens. In 1891 he secured 171 eggs per hen. People who go into the poultry business will find it advantageous to begin in a small way, keeping an account with their flocks. If they house their birds well and feed them properly a profit will be realized and the business may be increased to advantage.

Some discussion followed this talk, in the course of which Mrs. Thos. Cook, of Riverhead, gave her record as an amateur in the poultry business. From a flock of fifteen hens she secured 1,533 eggs and raised 100 chickens in the course of a year. After some further discussion of the proposition for an agricultural department, advanced in Governor Flower's message, and some remarks touching the desired branch experiment station for Long Island, which latter project it was thought would be advanced if a site was presented to the State, the institute adjourned sine die.

SUFFOLK COUNTY INSTITUTE AT RIVERHEAD.

The institutes at Riverhead have always been well attended, and the audiences have not been of the character that are called together with a promise of amusement or of a good time; on the contrary, they have truly represented the intelligence of Suffolk county farmers, which is as high as that of any section of our country. The meeting held this week has been the best one held, not only as regards numbers, but in the interest manifested. The court-house was not only filled, but crowded, with the farmers and their wives, sons and daughters, who gathered there to learn from others all that is known that would affect their industry in a way that would make it more pleasant and profitable. A more interested audience never assembled; the anxiety to learn was very pleasing to those who came to assist, if possible, the farmer in his search for new methods or new branches in an industry at present not over-prosperous. Much good work was done, as every one present seemed disposed to put new life into their work. There was much healthy food for thought, and when a community begins to think in earnest they are on a sure and safe road to prosperity.

The previous institutes have not been what the farmers desired; topics were discussed that have no place in the industries of Suffolk county. It took the directors some time to learn that our industries were peculiar to ourselves, because of location, soil and climate; and what would be of great interest and value to the northern and western parts of our State could not be made available here. This year, subjects of interest to our farmers were selected and presented by those familiar with them, and in such a way that the truths were made available. It is not to be expected that any great change in the agricultural situation could be effected, that unproductive farms could be made productive ones by discussion, or that our farmers could be shown an easy way to success. The development of any industry is slow, at the best, and can only be accomplished by well-directed thought. Our farmers were shown many better ways than are usually followed, many of them showing a disposition to adopt them; and when a man starts on the right road he is very apt to accomplish the purpose.

Mr. G. F. Powell, the director, opened the meeting with a few words to the point, as to the object and aim of those who have charge of the good work which has been undertaken by the State for the benefit of all classes in the State.

The first paper was an interesting one — on ornamental planting, by Henry Hicks, of Old Westbury, a grandson of Isaac Hicks, one of the leading nurserymen of our country. The essayist showed plainly how useful the beautiful is in making our homes pleasant and prosperous, as the farmers' homes are, in a far greater measure, than those of any other class in the community.

C. L. Allen gave a short talk on seed growing, and its practicability on a more extended scale than it is carried on. He endeavored to show the farmers that it could be made profitable in proportion to the care and attention given it; that when a farmer undertook to grow a crop for seed purposes, he assumed a responsibility of the greatest importance; that neglect, to an extent that caused failure, was an irreparable loss to the merchant that had intrusted his orders to the grower; a loss that could never be made up. He said the cabbage seed crop the past year had been the best ever known, that the average value per acre of the crops of his growers, was $174. The highest value of the crop of any one grower was $483, the lowest fourteen dollars. The wide difference in these results was largely due to the intelligence and fidelity of the grower on the one hand, and his failure to appreciate the importance of his trust on the other, and that, with proper care and a clear understanding of the business, it could be largely extended, and be made more profitable than any other industry of the farm.

In continuation of this topic, J. M. Lupton, Esq., of Mattituck, gave some important hints on the cultivation of cabbage, from the sowing of the seed, through the various stages of growth, until the seed crop was harvested. He handled the method of selection with much skill, showing its great importance in the development of this industry.

Mr. Eastman, of Waterville, N. Y., handled the manure and fertilizer question in a familiar way, showing the great loss that is constantly going on, in the way manures are handled, and also the relative value of manures which come from the feed given the animals. Mr. Eastman is a strong advocate of Mr. F. B. Terry's system of keeping up the soil's fertility by a rotation of crops, asserting that Mr. Terry, by the use of clover, which is grown two years, at a profit can follow it by a crop of potatoes, his average yield of which, for the past twenty years, has been 200 bushels per acre; and then a crop of wheat, the average of which has been thirty bushels per acre, without the use of manures or fertilizers, other than that afforded by the clover.

George W. Hallock, of Orient, was a man of the occasion, because he carries on farming in a business-like way; he knows the cost of everything he grows and the actual profit there is in every crop he grows. He said that it cost him thirty-two cents per bushel to grow potatoes thirty cents per bushel to grow onions; he did not give the cost of growing his other crops, as they were not asked for, and, besides, until the farmers of Suffolk county turned gardeners, as they must do sooner or later, the information would not materially benefit them. His golden text was "farmers, be systematic in your business, know what a given crop costs you, in order to know whether you can afford to grow it or not."

N. Hallock, Esq., of Creedmore, read a very enjoyable and useful paper on "The Boy on the Farm."

One of the great benefits of the institute was the bringing out of the local, latent talent of the neighborhood. The director and his assistants were agreeably surprised, as were a large proportion of the audience, when they heard the papers of Mrs. S. O. Benjamin, of Northville, and Mrs. G. F. Stackpole, of Riverhead, the former on "Domestic Economy," the latter on "The Science and Cost of Food." Both papers were admirable.

Another lady (her name was not given), astonished the wise on the poultry question, by saying that she always had plenty of eggs during the winter, even though as cold as this. Her method was to set her hens in February, get early chickens, which were cared for in summer, and got ready for laying in December, and kept at it during winter. This lady keeps a hundred young hens annually, and no old ones, and they paid well.

We were pleased at the interest manifested in the proceedings, particularly the question box part, which is an important one, as the farmer in that way, can make his wants known, and those in charge can see just what is wanted, and, from their large fund of general information on agricultural matters, can give all the facts wanted, with but little loss of time.

Another good result that has come from the interest taken in the institute held at Riverhead, is that there is every prospect of the establishment of an experimental station in Suffolk county at an early day.

THE QUEENS COUNTY INSTITUTE AT MINEOLA.

The Farmers' Institute, held at Mineola, Wednesday and Thursday, was a grand success, notwithstanding the misgivings expressed by some of the members of the Queens County Agricultural Society sometime since as to the result.

Prominent agriculturists from both Queens and Suffolk counties were present, and the interest taken in the proceedings by those in attendance, was exceedingly gratifying. At some of the sessions the seating capacity of the hall proved entirely inadequate to accommodate the large number present.

Director George T. Powell, of Ghent, N. Y., opened the morning session, Wednesday, and, in a few well-chosen remarks, welcomed the farmers of Long Island to the institute.

Mr. Nat W. Foster, ex-president of the Suffolk County Agricultural Society, read a most excellent paper on "The Development of Long Island." He was followed with the closest attention by the assemblage. Mr. Foster said in part:

"A goodly heritage we have, and what shall we do with it? A kind Providence has given us one of the most beautiful gardens on His footstool, delightfully situated, with a climate of rare healthfulness, a soil of great fertility, and resources almost unbounded. Its waters, surrounding and penetrating, teem with food and wealth. Where much is given, much will be required. Then great is our responsibility. That our island is not now more thoroughly developed, may not be our fault, but if it remains undeveloped, blame must lay at our door.

"Among the things needed, and this largely, or perhaps wholly, within our ability to provide, we find all over our island a call for good roads. What a long-suffering people we are? Why have we so long been content to travel over such roads? Some sandy, very, others loamy, at times heavier and more to be dreaded than the sandy ones; both good at times, both bad a great deal of the time, yet if some of each be properly mixed and properly cared for, good at all times. Is it long suffering we are, or indolent? How justly proud we are of our so-called system of working our roads. Generally, the great expense or cost of better roads, like a bugbear, looms up before the eyes and pockets of taxpayers, preventing any further attempt at betterment. Is it as great as it looks? Has not the constant cost of the present poor roads been overlooked? More feed, more time, more wear of team and wagon, more danger to health and life and limb. All these considered, we ask, in sincerity, are not good roads cheaper? And are not poor roads a greater tax than the tariff?"

Mr. Foster strongly urged the organization of improvement societies in every village on Long island, dwelling at some length upon the subject.

"What a wonderful development we might expect," he said, "with a live improvement society in every village. Organize. Put your best men or women at the front. Appoint committees for entertainments, to collect funds, to improve sidewalks, to make better roads, to plant trees, to beautify the homes. Meet often, talk it up with each other, speak well of your neighborhood and locality when away; inspire in the children at home and at school a desire for the welfare of village and town. Make the most of Arbor Day. Ask wealthy people to assist — to found libraries, or in whatever way they may choose. Each doing a little much is done, and all rejoice."

At the afternoon session the question box was opened, and many practical questions were discussed, after which Mr. A. L. Downs, of Mattituck, read a valuable paper on "Pickle Growing," and was followed by Prof. C. H. Peck, of Albany, the State botanist. The subject of his talk was "Some of the Vegetable Fungus Troubles," which proved very interesting. In regard to the fungus which causes the rot in the potato, he said that it was perhaps one of the most disastrous of all our fungoid diseases. He added, "It usually makes its appearance in the lower or older and weakened leaves, in black or dark brown spots, which grow and develop in wet weather very rapidly. We can combat this disease to a certain extent by spraying with Bordeaux mixture or the ammoniacal copper carbonate solution to prevent the spores ripening."

"The Fertilizer Problem," was discussed by Mr. H. W. Collingwood, of the Rural New Yorker, in which he championed the use of chemical manures as against barn yard or stable manures, dwelling at considerable length on this subject.

Wednesday evening, in answer to the questions, "What is the cause of Strawberry Blight," and "What causes Potato Scab," Prof. Peck gave interesting talks, and Mr. Geo. W. Hallock explained how he treats strawberry plants that they may yield 5,000 quarts to the acre.

Thursday morning the question box was conducted by Mr. Eastman, half an hour being spent in discussing the various questions raised. Mr. Edward Hicks gave an interesting talk on fertilizers, in which he treated particularly on home mixing, and was followed by Mr. J. M. Lupton, of Mattituck, who read a very interesting paper on "Questions at Issue on Long Island."

In the course of his remarks Mr. Lupton said:

"Now of course a Long Island farmer is on Long Island, but he is somewhere else, he is 'over the garden wall.' If he isn't over he is climbing up, for over he must go, or get left. All that the future has in store for us, in the way of the development of our farms, lies along this line.

"We shall never see these farms given over to flocks of sheep or herds of cattle. We never shall see the markets filled with Long Island butter or pork or wheat, but filled they will be from Long Island garden's with those products which are essentially the products of the garden, for by the success which attends his efforts in this direction the Long Island farmer must sink or swim. This then is just what we are roaring about. The Long Island farmer is practically more of a gardener than a farmer and those questions which deal with him directly as such are the questions at issue on Long Island.

"There is a question of transportation at issue on Long Island, a question which is perhaps more important at the present time than any before us. When Mr. Corbin and his associates first discovered Long Island only a few years ago, its railroad system was in a state of hopeless insolvency. So bad was its financial situation that these gentlemen are said to have secured a controlling interest in the property at from eleven to thirty cents on one dollar.

"At that time we were told that Long Island people could not be given the same accommodation at the same rates which was accorded people elsewhere, because the company could not afford it, and what is the situation to-day? That eleven to thirty per cent stock is worth one dollar and twelve cents. For every

$1,000,000 put in, the management can now take out 4,000,000; dividends are paid, and enormous sums are spent on permanent improvements out of the earnings, while the published statements of this company show that those earnings upon a system of 360 miles are greater than upon some roads having twice the mileage.

"And yet, go to them to-day with the evidence in your hands; show that the charges which you are compelled to pay for the transportation of your produce places you at a disadvantage with your competitor from every other section, and this company will tell you still that they cannot afford a reduction. Isn't it time for a change in the tune? Why not tell us plainly that these excessive charges are made because every rail and every tie is owned by this corporation, because the geographical position of the island almost precludes the possibility of competing lines, because we have no other outlet, and must pay the charge.

"And is there no remedy? Certainly there ought to be. What is the Legislature of the State of New York for but to serve interests of the people?"

Mr. F. E. Dawley, of Syracuse, gave a short talk on the treatment of poultry, particularly of egg production, and was followed by Dr. A. S. Heath, of New York, who gave an interesting talk on "Some Things Essential in Vegetable Culture."

Mr. C. L. Allen's talk on "Seed Selection" was exceedingly interesting, and the paper read by Mr. N. Hallock, of Creedmoor, during the afternoon session of Thursday, on "Small Fruit Growing as adapted to Queens County," was a most excellent one.

The following resolution was offered by P. H. Scudder, of Glen Head, seconded by Messrs. O'Donnell and Foster, and was unanimously carried by a viva voce vote:

Resolved, That it is the sense of this assemblage of Queens and Suffolk county farmers that a committee of five be to-day appointed to wait upon the Legislature of the State in conjunction with the agricultural societies of the two counties to the end that a State appropriation be made for the establishment of an experiment station within the confines of the two counties, whose purpose shall be the especial consideration of the diseases to which Long Island plants and crops are subject, the remedies best adapted to this locality, and such other matters as may pertain to the agricultural and horticultural interests of the island.

Resolved, That the board of supervisors be also asked to co-operate before the Legislature, and as well to appropriate a supplementary fund should the action of the Legislature be favorable.

Director Powell being compelled to leave before the institute closed Hon. John O'Donnell was selected as chairman and Mr. Henry Hicks, secretary.

The following committee were appointed on "Experimental Station:" H. P. Scudder, Glen Head; Nat. W. Foster, Riverhead; John O'Donnel, Jamaica; J. M. Lupton, Mattituck; A. B. DeNyse, Bay Ridge.

Mr. Isaac H. Cocks strongly urged the formation of a permanent agricultural club, the object being to hold meetings similar to the institutes, for the exchange of views on agricultural topics, to establish a method of co-operative buying, and the obtaining of information in regard to the mode of conducting market gardens in other parts of the country, which was generally favored by those present. The following committee was appointed to consult as to the advisability of forming such an organization: Richard Collier, Woodbury; B. S. Carman, Hempstead; Nicholas Hallock, Creedmoor; Abram Van Sicklen, Jamaica; Wm. Cocks, Westbury; John O'Donnel, Jamaica.

Mr. H. P. Scudder introduced the following resolutions, which were passed unanimously and directed to be forwarded to the board of directors of the Queens County Agricultural Society:

"Whereas, The members of the society directed the board of directors to have investigations undertaken of the insect and fungoid enemies of our crops,

"Resolved, That we respectfully express our astonishment that they saw fit to ignore the expressed wishes of the members.

"Resolved that a vote of thanks be tendered the institute department of New York State Agricultural Society for holding an institute here adapted to the needs of Long Island.

"Resolved, That a vote of thanks be tendered, and they are hereby tendered, to Mr. Henry Hicks, of Westbury, and to the secretary of the Queens County Agricultural Society, for their untiring efforts in behalf of, and which have resulted in holding a very instructive and successful institute.

"Resolved, That the thanks of the meeting be tender the Queens County Agricultural Society for their liberality in appropriating fifty dollars for the local expenses of the institute.

"Resolved, That a vote of thanks be tendered the newspapers, which have given such general information to the public."

The institute then adjourned.

Reading Matter for the Farmer.

A farmers' institute was held at the court-house, Monday and Tuesday; five sessions, one being on Monday evening. The programme of speakers sent out by the State contained the names of Edward Van Alstyne, of Kinderhook; Professor S. A. Beach, Geneva; Professor I. P. Bishop, Buffalo, and Professor C. Norton, Cornell University. Mr. F. A. Converse, of Woodville, also one of the State force, was present. Tuesday, Mr. Geo. A. Smith, of Frankfort, was also with the force. The local names on the list were Jas. McMillan, Fairport; Edward C. Crundall and Gerrit S. Glenn.

Mr. Van Alstyne called the Monday morning session to order, and, after a brief preliminary address, in which some of the objects sought in holding the institutes were enumerated, and an invitation extended to all present to lend their aid in making the institute a success, he introduced Mr. Gerrit S. Glenn, who made an address on "Beet Sugar Raising." In it he gave the consumption, in figures, of sugar per capita in this country and Europe; made some statements concerning yields and those possible; the profits that may be derived from the industry of growing sugar beets on the farm; prophesied a higher price for sugar; gave the area of the sugar belt, where it "sweetens up" and matures in perfection; told when and how the beet should be planted, and recommended the establishment of the industry here, as this section is included in the "belt." He said the season of this beet was about four months, and much of the work of making the crop could be done with machinery. All in all the address was very much like that delivered by Dr. Collier, of the State Experiment Station, Geneva, at the farmers' institute last year. To those who contemplate the growing of sugar beets the address was of value, as it contained much information. He also spoke of sorghum and said it was the coming plant from which to make sugar in this country, as the whole product can be utilized — the juice for sugar, leaves for cattle food, and the wood fiber for making paper. Indeed, he said the crude fiber was worth as much for making paper as was the juice for sugar-making, but he recommended the making of syrup instead of sugar from sorghum juice, as good syrup can be made while the cane is quite green, while perfectly ripened cane can alone be used for sugar. In sections, he said, where early frosts are common, the farmer raising sorghum will be able to grow it quite successfully when using it for syrup, also that pure sorghum syrup ought to retail at seventy-five cents per gallon. There is going to be a demand for pure goods of this character, as all we now get, almost, is adulterated with glucose. Even the maple syrup is bought up and adulterated with this stuff. Sorghum syrup should wholesale at fifty cents per gallon. If enough farmers can be induced to go into the industry to induce capital to put money into a large factory equipped with machinery of modern invention, so that the business can be done on a large scale, there is no doubt that a larger profit can be derived from this industry than from any other on the farm. The address closed the morning session.

Monday Afternoon.

The session opened with the question-box exercise, some of which are noted.

Q. In what is the average farmer benefited by the farmers' institute?

Mr. Jones.— The farmers get no benefit from the institute unless they attend them. Those here are the most intelligent of the class. I have yet to find a man who has attended these institutes who went home and said he had not been benefited thereby. Those, however, who most need help do not, or will not, come here.

Q. Can a farmer draw beets five miles and make them pay?

Mr. Glenn.— I think he might. He can run them twenty-five miles on the railroad, if he lives near the track, and have a profit left, the price being $4 per ton. The yield should be fifteen tons to the acre, the cost of which will be about $30. In Germany, on a large acreage, the average was a little less than thirteen tons to the acre.

Q. Will frozen roots injure cows or sheep, if fed to them?

Geo. A. Smith.— I do not see why any damage should come from them, when fed in reasonable quantities, and they should be cut. Of course, the freezing will detract somewhat from the value of the roots as a food.

Mr. Van Alstyne.— I do not like to feed an animal a frozen root. Freezing lessens the sugar per cent, and, when the frozen roots are fed to sheep they produce scours. I would draw the frost out of the root, then cut and feed at once.

Q. What is the proper ration for fattening lambs with the following: Corn, oats, bran, mixed hay, bean pods and mangels? Also for breeding ewes?

Mr. Van Alstyne.— I would feed bean pods once a day and hay once, and would make the grain ration for breeding ewes, without corn, unless they were thin in flesh. Clover hay, turnips and cotton seed meal would be the ration. For lambs, I would make the ration two of corn, one of oats and one of wheat bran, with all the mangels they will eat. Oats are good, but cost too much.

Q. Does it pay to use commercial fertilizers on bean ground?

A Farmer.— I do not receive any benefit from commercial fertilizers on beans. Have tried them twice, using a so-called special bean fertilizer.

Another Farmer.— On a warm, sandy soil I have never been able, with the naked eye, to discover any benefit from using these fertilizers on beans. Would not hill them.

Mr. Van Alstyne.— Experiments with differently formulated fertilizers on different soils, for different crops, will show you what you need and how to apply them. As a rule, on all strong soils, but little, if any, nitrogen is needed. Phosphoric acid and potash are the elements most needed for average crops. I have never raised but two full crops of beans, and am therefore not familiar with them as a farm crop.

After Mr. Glenn had exhibited several samples of sugar and syrup, and syrup adulterated with glucose, and answered a number of questions which his morning's address brought out, Professor Watson addressed the institute from the text: "Buying and applying commercial fertilizers."

He said, there are three vital elements of plant food. They must be present in the soil in certain per cents, and available also as to plant food at once, else they will return no immediate revenue. These foods are nitrogen, phosphoric acid and potash. A complete fertilizer contains all of these in greater or lesser per cents. We must know these per cents, and, if they are available, one must know, also, what a certain soil needs to produce a certain crop, and this we can only know, except from careful experiments. When we have made these experiments, and carefully noted results, we shall know how to buy, what to buy, how much to apply, and how to apply a fertilizer for the crop we are to grow. One soil will need a complete fertilizer for one crop, for another an incomplete fertilizer, which is one containing but two elements of plant food; and, on another field, the condition may be reversed for the same crop, etc., etc. The professor, by means of a chart, explained the terms used in describing the analysis of fertilizers, and told from what sources we obtain the elements of plant food. Soluble and insoluble phosphoric acid, that available immediately, and that which is given up to the plant by degrees, were described in detail, and made as well understood as possible. He also spoke of the different forms of potash. Sulphate of potash is nearly one-half pure potash. Muriate is another form and its per cent of pure potash varies somewhat from the sulphate. Generally speaking, the muriate of potash is the more valuable for cereals, but for fruit trees, potatoes, tobacco and the vegetable family generally, the sulphate is the best. He also gave the cost of nitrogen phosphoric acid and potash, both the muriate and sulphate. Also the analysis of several samples of barn manure, as made at Cornell, and said they all showed that nitrogen, which costs fourteen to seventeen cents a pound, was not needed in the commercial fertilizers used in connection with the manure on the Cornell University farm. As a rule, barn manure — not barn-yard manure — is deficient mostly in phosphoric acid and potash. He therefore recommended those fertilizers, if they are to be bought, that contain no nitrogen, but are rich in phosphoric acid and potash. The legumes, clover, peas and other plants of that family have the power to get nitrogen from the air, through their roots. Large-leaved plants, such as beans and potatoes, require potash and phosphoric acid. An average of eighty-six pounds of manure were saved from each cow per day, last year, at Cornell. This included both solids and liquids. Nitrogen is the most costly plant food, and gets away most easily, escaping in the form of ammonia, by evaporation. Phosphoric acid and potash get away by being washed out.

The speaker was plied with questions during his talk, by the farmers present, each one seeming determined to get all the information they could of value in solving the intricate and always difficult problem of fertilization. The professor, however, was ready with his answers as fast as the questions were fired at him.

"Hygiene of the Horse," was the subject of a paper read by Dr. Edward C. Crundall, when Professor Watson had concluded his address, and which closed the session.

Evening Session.

Question box.— Q. Do you consider milk from a creamery, after the cream is drawn off, as good for calves as milk from pans in the old-fashioned way?

Mr. Smith.— The feeding value of the milk is the same, but the milk from the creamery should be warmed. The feeding value in such milk consists in its per cent of caseine, sugar and ash. If such milk is fed cold, it will be injurious to the calf. Mr. Burrell, of Little Falls, fed his separator skim milk, with which a little oil meal had been mixed, and got forty-seven cents a hundred pounds for it. It was fed to calves.

Mr. Van Alstyne.— Milk that has a good per cent of fat in it is too valuable to feed to calves, when it is worth twenty-five cents a pound. It will be better "business" to take out the fat and substitute oil meal when that does not cost more than one-and a half cents a pound. The other elements of the milk produce the bone, muscle and blood of the animal.

Q. How can we get the bulletins sent us from the Geneva experiment station?

Mr. Van Alstyne.— With four names and addresses on a postal card, and saying you want the bulletins and will acknowledge the receipt of them, and mail it to the New York Experiment Station, Geneva.

Q. Would it pay to sow potash on an apple orchard, and in what form should it be?

Mr. Van Alstyne.— Certainly. It is the most important element of plant food for the apple. Wood ashes, if strong and unleached, are good. If you buy them have the analysis guaranteed. If you buy potash, get the muriate, and apply from 250 to 500 pounds, sown broadcast under the trees, on an acre. You will not be able to put on too many wood ashes.

Q. What is the best way to use hen manure?

Mr. Van Alstyne.— I use plaster in my hen-house to keep the droppings dry and to hold and save the ammonia. They are a good fertilizer for corn. I put it on top of the corn, after planting and covering.

Mr. Converse.— We had two pieces of corn last year which were treated with fertilzers, one was drilled in with the fertilizer, the other was planted and the fertilizer sown broadcast over it. The difference was decidedly in favor of that sown broadcast. If one has hen manure enough, it is preferable to commercial fertilizers for corn. We had forty-five acres of corn, therefore could not get hen manure enough to fertilize all of it.

Q. Do you know of any dairymen who make cheese, and raise good calves on whey and grass.

Geo. A. Smith.— The feeding value of good sweet whey is about seven cents a hundred pounds. If it is allowed to become sour it is worthless. Sweet whey contains about three-fourths of a pound of albumen and four or five pounds of sugar in a hundred pounds, while the skim milk contains the same elements and all the caseine of the milk, which is the nitrogenous portion; mix some oil meal with sweet whey; wheat middlings is also a good food to mix with the whey. Begin with a table spoonful of the meal or middlings and increase the ration slowly. If you were to feed a pint of the meal at first, it would make the calf sick. Do not give the same amount to every calf. Increase as the calf grows older. Then, too, not every calf of the same age will require the same made up ration. One must experiment and watch results.

Mr. Converse.— We begin feeding sweet whey when the calf is a week old, feeding about a gallon, in which is mixed at first about one-quarter of a pound of the meal or middlings, and which is increased to a pint after awhile, the calves running in excellent feed and where there is plenty of excellent water always accessible.

Prof. I. P. Bishop, of the normal school, Buffalo, when the discussion and questions closed, gave a lecture illustrated by stereoptican, having for a heading: "The Origin and Composition of the Soils," which was very entertaining as well as instructive. A large number of views were projected on screen, greatly magnified, showing the first appearance of the continent above the waters, and its slow growth, occupying ages, during which it passed through several geolgical changes. Pictures of the first animal life were shown, of birds, fishes, reptiles and animals, each period having those of a higher color than those that proceeded it, till the time when man came upon the earth, making the address, illustrated as it was, one of great interest to those who were so fortunate as to be present. Mr. Bishop occupied an hour and ten minutes and would not have wearied his audience had he taken another hour.

"Education for the Farmers," was the subject of an address, by Mr. F. A. Converse, which closed the session. He said that the education the farmer most needs is that which will lift him up and better his condition. It must bear directly upon his own business. He must be made to think and experiment, instead of keeping up the Macedonian wail: "Farming don't pay." He also said the place to begin is with the children in the public schools. Teach them the rudiments and they will complete their education later on. Men are apt to get into a rut and refuse to get out. We must look to the children for the better future. The farmer, if he will, may learn much by reading agricultural papers. Instead of political and story papers, read those papers that are devoted to your business, and books of like character. Every farmer should have a library in part made up of these books — agricultural, chemistry, botany, geology and entomology. A knowledge of all these sciences is absolutely necessary to success on the farm. The farming of the future will be conducted with these sciences as a basis, and the farmer who does not recognize this fact will surely fail.

Another means of getting a better education is such meetings as this, and another the farmers' club, and the grange another. We should meet often, compare notes, exchange opinions and give and receive experiences. Every reform goes slow, unless one has a system to pursue. Have such a system, and remember, we must put the best brains we can get into our business; then we'll be able to keep the children on the farm, and make the old farm home the happiest and best of all the homes in the land. Give the wife and the children a share of that which they helped to accumulate, and don't teach the children that their farm life is only one of drudgery, but that it is the best calculated of all the professions to make them intelligent, honest and upright citizens.

Tuesday Morning.

Before calling the institute, Messrs. Smith and Van Alstyne made tests of a number of samples of milk with the Babcock machines for butter fat, results of which follow

No. of test.	Owner.	Per cent. of fat.
1	Mr. Owen	4.4
2	Mr. A. Cummings	3.6
3	Mr. Kittredge	4.8
4	Mr. Jackman	5.6

No. of test.	Owner.	Per cent of fat.
5	John L. Scott	5
6	Mrs. Johnson	3.9
7	Mr. Harris	6
8	Skim-milk	0.8

Question box.— Corn roots running so far in the ground, how late should the corn be cultivated and how deeply?

Mr. Van Alstyne.— The season will not make any difference if you cultivate properly. The work should be done at a shallow depth, two or three inches. If so done, you may continue the work till the corn is too large to allow the horse to go through. Do not cultivate, deeply, as, by so doing, you cut off the young roots that are spreading out in search of moisture and food.

Can a cow's milk be made richer by feeding?

Geo. A. Smith.— It will depend on circumstances. If a cow has been starved, the fat per cent may be increased. A well-kept carefully fed cow will not increase to any great extent her per cent of butter fat. Every cow has a normal capacity in that direction, and it is quite well proven that she cannot go above that. Proper foods coupled with care will alone develop a cow to her full capacity of butter fat production.

Of whom can commercial fertilizers made to suit our land be obtained?

Mr. McMillan.— All manufacturers of fertilizers will do that. They will formulate your order just as you give it, be the per cents of phosphoric acid, potash or nitrogen, more or less, and they will guarantee the analyses to be correct.

How can we obtain the reports of the Department of Agriculture at Washington? To whom should we address our requests?

Mr. Converse.— The department at Washington is divided into several bureaus. Direct your letter to the secretary of agriculture, care of that department. Send for the Experiment Station Record, department of experiment stations, directing to the secretary, Mr. Rusk.

What is the best method of getting rid of what is known as wild carrot?

Mr. Converse.— We do not have it in our county.

A Farmer.— If we will keep it out of the highways and dig it all up by the roots, we will get rid of it.

Mr. Van Alstyne.— We plow it under in our county. When it is of thin growth it may be eradicated by pulling it out. Sometimes there will be a second blossom in the fall; to prevent the seed from this from germinating it is well to mow the weed before the seed ripens. If you have a field thoroughly impregnated with it, the only way to get rid of it is by deep planting and thorough cultivation. If you can prevent the plant from thrusting its leaves above ground, you will kill it sooner or later.

A Farmer.— Plow and plant the land to beans, give good cultivation a few seasons and you will kill the weed.

Another Farmer.— Don't plant the beans, unless you want to ruin your farms. I had rather grow three crops of wheat than one crop of beans on the same piece of land.

Which is the best for sheep and cows, ensilage, mangolds or turnips ?

Mr. Van Alstyne.— Of the three, there is no doubt that ensilage is the best, both for the animal and the milk, if fed to a cow. Roots are good but they are not so cheaply grown as corn silage, and more care is needed in feeding them. An acre of good land should produce fifteen to twenty tons of silage, and it can be grown, harvested and put into a silo for at least one dollar and twenty-five cents per ton, probably less. It is only a question of time when cows on high-priced land will be kept by soiling and silage will be the chief factor. There are now many dairymen who are keeping their cows that way, and all of them report excellent results, therefrom, both in reduced cost of keeping and in the yield of milk.

Mr. Converse.— There has been and still is some prejudice against corn silage, made usually by the keepers of horses; but those who have thoroughly experimented with it have withdrawn from the contest. We have two silos, and have been feeding it to fifty cows and seventy-five horses all winter. No trouble has been experienced. Everything on the farm that will eat grass will eat silage.

Last year we built a silo that did not cost us a cent. We filled our two silos, then backed the cutter up to the barn and cut over 200 tons on the barn floor. It was thoroughly trodden and packed. Did not cover it all, and all we lost was a little at the sides of the barn. Of course we began feeding it at once, and having a large stock of cattle and horses, we fed it quite rapidly, thus prevented it from molding. We have only just finished feeding that silage, and we never had or fed a better product. There is no longer a question of doubt about the value of silage as a food. It passed the experimental stage long ago, and such men as Professor Sanborn, who for a long time opposed the feeding of silage, have ceased their opposition. The best dairyman in this State, Wisconsin and elsewhere have and are utilizing the silo and its contents, and as it is not only the cheapest grown farm crop for feeding stock that we grow and its effect all that we can desire, it is only a question of time when all opposition to it will cease.

"Sorghum Culture" was Mr. James McMillan's subject for an address that consumed the remainder of the session, the audience having, by vote, decided to give him all the remaining time, the subject being of much interest to some of the farmers present. The speaker began by describing in part the plant, and was following with directions for cultivation, when the interruptions began. Questions were fired at him, and he was turned from the current of his talk. After a while he was allowed to drift back, when he gave them the methods of harvesting and told when to do it. If a frost comes early in the fall, the cane is only injured for making sugar. The "graining" or crystalizing process being thus prevented. For the making of syrup, however, it does not injure it.

The speaker also told how to prepare the cane for the mill, all that is necessary to do being the cutting off the tops. "Stripping the cane," is no longer practiced.

The speaker gave very fully the whole process from the field to the syrup bottle, the journey of sorghum, and said the seed makes excellent hen food, and when ground and bolted, makes a cake superior to buckwheat.

He had some specimens of seeds unthreshed, on exhibition, as well as several samples of syrup.

It was understood that Mr. McMillan, who lives at Fairport, has a mill for crushing sugar cane, also evaporating pans and other implements for the manufacturing of syrup, and therefore, knew whereof he spoke.

In answer to the question as to cost of a syrup mill, he said that $15,000 would build and equip a mill that would take care of 200 to 250 acres of cane. He also gave the names of some of the more desirable varieties of sorghum and stated when they ripened. Cane for syrup may be cut and kept some time before rendering; but that for sugar must be cut and crushed at once. The amount of juice varies from 150 to 300 gallons per acre, depending upon soil, cultivation and season, and the wholesale price with him is about forty cents per gallon. In answer to the question as to whether, in his opinion, beet culture here for sugar making was advisable, he said no, as the climate he thought was not quite fitted for it. Sugar beet growing, he said had failed near Schenectady because of climatic effects, and he thought it would fail here, if tried, from the same cause. Sorghum was the plant he had tied to and he finds it satisfactory. He also said that, notwithstanding the so-called low price of sugar, the consumer is to-day paying seven or eight cents a pound for it, because of its adulteration. People say: "What a grand thing; here we are buying the best refined sugar for four and one-half to five cents a pound, etc., etc., when, in truth, it has not been really so high in years, that is, the sweet in it; nor never was there a time when manufacturers of sugars were making so much money as now.

The remedy is, grow or manufacture as many of your own sweets as you can. One should grow an average of 250 gallons per acre, which should net over and above all cost, including interest, labor, taxes, insurance, etc., twenty cents per gallon. He also said he would buy cane from the grower, or would manufacture the syrup from it of him.

The address which was very full and complete, was cut short by the adjournment for dinner at 12 o'clock, the chairman saying the last session would be called at 1.30.

The Last Session.

Question box.— What can we do with a clay soil farm that will pay us better than to raise hay for sale?

Mr. Converse.— In the New York hay market, Jefferson county takes the lead. It is a great hay producing county, but we are finding the land is becoming depleted of its plant food; so we are utilizing the dairy to keep up the standard of fertility, and which we are doing by practicing a three years rotation of crops. We sell timothy and feed the clover. We have sold hay so long that this system has become absolutely necessary.

A farmer.— I have had twenty years' experience in selling and raising hay, using a rotation system, and keeping the meadows down three to four years. The yield of hay is as good as ever. I plow one-half of the farm, putting on all the manure, then seed, and plow the other half. Now what can we raise that will do as well, when we can sell the hay at ten dollars per ton at the barn?

Mr. Van Alstyne.— Every ton of timothy hay you sell you take five dollars and forty-eight cents of fertility away from the soil with it, and it is only a question of time when the soil will become exhausted of its fertility, unless you restore it. You might just as well attempt to draw money from a bank without making any deposits.

A farmer.— I sell clover and feed timothy.

Mr. Van Alstyne.— For how much per ton?

About eight dollars.

Mr. Van Alstyne.— Then you sell twenty cents more worth of fertility than you get for the hay. I cannot afford to sell clover, so I sell the timothy and feed the clover.

Another farmer.— We have here what is known as "clover sickness," not being able to keep it more than a year.

Mr. Van Alstyne.— That shows your soil to be poor in potash and phosphoric acid. That must be supplied in order to give the clover a start. The question brought out much discussion.

Is there any way to prevent a horse from eating his grain too fast?

Mr. Van Alstyne.— I have known two ways to prevent that; one is, to put a bit in his mouth, the other is, to put cobble stones in the manger the size of your fist; either will cause him to eat more slowly.

Will Mr. Converse name one or more works on agricultural chemistry, that are adapted for home study of the farmer.

Mr. Converse.— I would recommend Johnson's How Plants Grow and How Plants Feed. Warner's Elements of Agriculture is also an excellent work for that purpose. There are other works of like character that may easily be obtained. The two works I have named are in use at Cornell University.

Q.— Give us a better ration for growing and fattening pigs or shoats in winter than corn and barley equal in bulk, ground and mixed with skim-milk and water, seasoned with a little salt and wood ashes, soaked twelve hours?

Mr. Van Alstyne.— That is all right except the corn and barley. They are too rich in the fat-forming elements for growing pigs or other young animals. They must have nitrogeneous foods to make bone and muscle. I feed no corn, but wheat mids, oats, if not too high in price, and some other like foods. The vital point in feeding a young pig is to keep him growing. This year it will stand us in hand to associate with the pig and to cultivate his acquaintance. Two years ago a man would go out of his way to kick a pig; to-day he will take off his hat to every one he meets in the street; therefore, he should be properly grown and fattened in order to get the most money out of him possible.

Can an orchard with trees eight to ten inches in diameter near the ground, and which has never borne except a scant crop once in four years, be made productive by feeding potash?

Mr. Van Alstyne. It may and it may not. If the land is deficient in potash, it is quite possible they may be made fruit-bearing. On most orchards the trees stand too closely. They should be thinned. Sometimes the ground is too rich in nitrogen, making too much growth of wood. Some orchardists girdle their trees by cutting or sawing just through the bark. It checks the flow of sap, reduces the growth of wood and give the fruit buds a chance to develop.

Has anyone present had any experience with rape as a forage plant?

Mr. Van Alstyne.— I think rape an excellent food for sheep, particularly the young lambs. Sow it on inverted sod, either in drills or broadcast, the last week in June. In a few weeks it will be large enough to turn the sheep onto it. Sow the variety known as "Dwarf Essex," and do not allow the sheep to eat but little at first. For young lambs the seed should be sown earlier, say in May. They thrive wonderfully on it, but it must be remembered it is a very hearty food, and, if the lambs or sheep are given too much it will cause float.

What variety of corn is best for silage in Livingston county?

Mr. Converse.— I do not see why any of the large dent varieties will not do well here. Leaming or Sibley's Pride of the North are good sorts. They do well in Jefferson county, and should here. We planted between forty and fifty acres last year, which produced an average of fifteen tons per acre. We have settled down on the Leaming, but some other variety may do better with you. Raise that variety that will produce most, and mature in your locality. When we can produce such a yield of silage and at so small a cost I do not see how those of you who keep stock can do without a silo.

Mr. Converse at that point gave his method of cutting silage and filling the silo, and said the principle is the same as that of putting up canned fruit. The silo is the can, the corn the fruit. Make the silo air tight and frost proof, and cut and put in the corn after it has matured enough to snap off the seed ears. If put in matured there will be no trouble at all.

A Farmer.— I put in in drills last year six acres, one-half sweet corn, from which I picked the best ears, the other half was State corn. The sweet corn was put in first, and I am now feeding it. It comes out in fine condition.

Mr. Van Alstyne described his silos, told how he grew his silage and filled his silos, and said: "Do not put in any more corn than you want for the corn ration. Pick off the surplus ears before cutting the silage, then when the silage is fed sprinkle the cotton seed or linseed meal or wheat bran to balance the ration. I feed silage and the grain ration night and morning, and the clover hay at noon. Remember, you want to put brains as well as corn into the silo, and use brains for motive power when you feed it."

In answer as to how far apart he plants his silage corn, he said he formerly drilled it in, but now plants in squares about three feet apart, also that he prefers some of the large State varieties for silage.

Mr. McMillan, by request, here made some explanations in regard to commercial fertilizers, and said a man who wishes to buy them should consult the analysis on the tags, then find out what their available value is, what he can do by ascertaining the cost at wholesale of nitrogen phosphoric acid and potash in the market. Next, he should learn what his soils need and how to apply it. Best goods are always the cheapest, and, when you consult the analysis you will know how much you ought to pay for them. If you are in doubt, consult the chemist at the experiment station, giving him the analysis, when he will tell you their worth. You will also find it of importance to send for the bulletins treating the subject, at the Geneva station.

"Some Diseases of Farm Crops," was Professor S. A. Beach's subject for the first address of the session, but he devoted it somewhat to the diseases of the peach tree, beginning with yellows, and said that ofttimes there are yellow leaves on peach trees which are not caused by "yellows." The best evidence of the disease is a surplus of shoots and the premature ripening of the fruit. When these signs appear it is safe to dig out the tree and destroy it. Other diseases were enumerated, such as some of those of the bean, smut in rye and corn, and the potato rot fungus, made more intelligent and better understood by a chart on which were shown in colors some of the fungus in their various stages of growth.

Mr. Geo. Smith, of Frankfort, Delaware county, and one of the assistant dairy commissioners made the next address, from the text, "Dairying," in which he urged the farmer to study the individuality of each cow, find out how much it cost to keep her, and by testing her milk find out whether she is paying for her board or running in debt for it. To illustrate more fully the necessity of this knowledge, he read the results of the tests made of milk at the institute, and from it pointed out the paying and non-paying cows. He also read from the bulletin, issued recently by the State Dairymen's Association, statements giving the results of a census of the cows in the town of Bovina, Delaware county, in which results differing from twenty-eight cents loss and sixty dollars profit per cow, in two dairies of fifteen cows each, were given. These two show the difference in the way the cows were kept, fed and cared for. It was all the evidence necessary to prove the position taken by the speaker. He then showed, by a chart, how to combine certain rations to produce best results. He also exhibited an analysis of two ounces of milk, in which were shown the per cents of the solids and the water in milk, and, through it, the further necessity of feeding the milch cow foods that go to the productions of the solids in the milk in proportion; also the great necessity of giving the cow all the pure water she will drink, and so have it that she may get it when she wants it. The analysis showed the per cent of butter fat, caseine — or cheese element — sugar, ash, or mineral matter, and the water, the latter being eighty-seven per cent of the milk.

At the conclusion of the address he answered some questions, after which Mr. Van Alstyne made a brief closing address. He then declared the institute adjourned.

FRUIT CULTURE.

By W. T. MANN.

The subject assigned me is so broad in scope that I have endeavored to treat it only in a very general manner in the short time allotted for its discussion. It is a branch of agriculture, however, of such present and prospective importance to us that it deserves far greater attention than it has received in the past.

During the past two or three years, I have been endeavoring to furnish crop statistics to the department of agriculture for Niagara county, and during that time the meager results that have too often rewarded the anxious toil of the grain farmers, have caused me to wonder how they could maintain an existence by raising grain at the prices that have prevailed. Wheat, a staple and leading crop, has averaged 14.3 bushels per acre in the State of New York, during the year 1892, and the average price has been not far from seventy-five cents per bushel, making the gross income per acre between ten dollars and eleven dollars. How, with an income of but a little more than ten dollars per acre, the farmer could maintain himself and at the same time furnish his family that leisure necessary for the highest development and for the enjoyments of life, without which, labor becomes brutish, is a problem that I have been unable to solve.

In view of this condition, I have often wondered why our farmers have not given more attention to fruit production. Why, in fact, they have not made it their chief business with all that that word business means, of thought, and study, and reason. We are aware that the farmers of Niagara county have prospered in the past by the production of grain and stock. We also know that since that time conditions have changed and that now we are meeting a ruinous competition from the boundless west. This is a condition that we can not meet and prosper, and reason tells us we would change our system of farming and raise those crops that require more skill and labor, or are more bulky or perishable in character. We are surrounded by great and rapidly growing cities, that demand vast quantities of fruits and vegetables; we have a variety and character of soils, and a climate that are pre-eminently adapted to the production of fruits in great variety and of the highest quality.

These facts point to the means of continued prosperity; for, while it is true, that during the past few years, there has been much of discouragement and uncertainty in fruit production, as well as in grain farming, there is a fundamental difference between them that is full of encouragement to the thoughtful fruit grower. The grain farmer may vastly improve his condition by increased knowledge and thorough attention to details, thereby obtaining largely increased yields; still, with every effort that he makes towards improvement, he must realize that he is working at a disadvantage and that the real difficulty he has to meet is due to locality, and is beyond his power of control. On the other hand the depression that has existed in the fruit industry, has been due to failures, resulting from specific causes which are not local in character, but are common to all sections of the country, from Maine to the far western States. Many of these causes are now subject to control and all may, in time, become so. And, while striving to overcome them, we have the assurance of favorable conditions of soil and climate that give us an advantage, and will render our position secure.

While, however, we possess these natural advantages, they alone cannot give us the success we so much desire. That can only be acquired by a proper use of opportunities. The reputation that we have already achieved has come almost wholly from these natural advantages and without the application on our part of proper business principles. The production of fruits has been a side issue, and has been left so largely to the realm of chance that we seem to have become imbued with the idea that our duty begins and ends with the planting of the tree or vine; and if it fails to bear fruit we are too ready to charge the failure to nature, rather than to our own neglect. We seem to have overlooked the fact that every effect has its cause, and that if we understand the cause we may be able to control the effect.

I believe that the many and repeated failures we have experienced during the past few years are indirectly due in a large degree to our failure to appreciate these facts, and that in the nea future there will be a marked differentiation between those frui growers who apply proper business principles to their business, and those who trust to nature and fail to apply the proper mean to win success, and that the successes of the one class will be as marked as the failures of the other. There will no doubt be sufficient exception to prove the rule, but knowledge and skil and persevering effort will reap their just reward while neglect of the first principles of success will reap as in the past its failures

Success in the future must come from a deeper thought of fundamental principles, and an ability to adapt them to circumstances. For instance, in considering the soil and its management, owing to the diversity of conditions that may be presented, it is impossible to lay down dogmatic rules that will prove an unerring guide to success under all circumstances. There are, however, general principles, equally true in the orchard and in the field, by which all successful soil operations are governed.

The soil, as is well known, is the storehouse of a few elements which are necessary constituents of all plant growth, and it is the business of the farmer to transform those elements into the innumerable and diversified products required to satisfy the needs and wants of man. As the words of the dictionary in various combinations make the language of a people and give rise alike to the unearthly utterances of the uncultured boor and the inspiring eloquence of the orator or the divine harmonies of the poet, so do these few elements of the soil enter into the combination that comprise the most coarse and worthless productions of the vegetable kingdom as well as the choicest fruits of the orchard, and the most beautiful and etherial productions of the florist. The transformation of these crude elements into the most valuable productions for which we are able to find a market is the end and purpose of soil culture, and it would seem then that the production of grain crops in an orchard is "a penny wise and pound foolish" proceeding, because by so doing we are transforming the nitrogen and potash and phosphoric acid that the trees need into crops that are worth at most ten to twenty dollars per acre. While if they were placed upon the market in the form of choice fruits they would give a return of $100 or $200, or $300 per acre, or even more under especially favorable circumstances. If these statements are true, and I believe they are, then what are we to think of the business sense of the fruit grower who will permit his berry fields and vineyards and orchards to become the prey to weeds — and are we not forced to the conclusion that the only proper soil management for the fruit plantation is clean cultivation, except in those circumstances where the production of certain crops upon the soil for green fertilizing transforms the needed elements into a condition that renders them more assimilable to the roots of the fruit-bearing plants, or bring from the air at little expense, certain elements of which the soil may be deficient.

Now, while these are general principles which may be easily stated, and must prove the basis of all successful soil management, still each individual grower must adapt them to his peculiar circumstances, having a due regard to the requirements of each variety of fruit and the peculiarities of the soil which he is cultivating, supplying, meantime, those elements in which the soil may be deficient, so as to maintain a healthful growth.

We cannot, however, depend alone upon the soil for success. For, while we must look to the soil for the foundation of successful horticulture, still all our thought and labor in providing the plant with suitable food and congenial soil conditions may be brought to naught and failure continue to be our record unless we are prepared to meet and overcome the innumerable parasites that are ever ready under suitable conditions to prey upon the plants, to the injury of both tree and fruit, perhaps to their destruction. In fact, this branch of our subject is attracting far more interest at the present time than the management of the soil, and a large proportion of the time and attention of the many experiment stations, and of the horticultural societies of the country, are devoted to investigating the character and habits of the many pests, both insect and fungoid, with which our fruits are infested, and are seeking for methods by which they may be destroyed. Enough has already been accomplished in this direction to warrant the assertion that many of the losses and failures of the past have been due to preventable causes, and that the successful horticulturist of the future must possess a wide knowledge of these minute forms of life, and the means of controlling them.

These losses which are the most readily recognized and are the most easily prevented are such as are due to the attacks of insects, among the most common of which are the codlin moth and the curculio. Their successful control has demonstrated the practical value of the spray pump as a means of success. My own experience with the poisoned spray covers but four or five years, but results obtained during that time warrant its continued use. Before using it my fruits were often so badly injured as to make the marketing of them anything but an agreeable task, and in the case of pears it sometimes became necessary to put as many as two-thirds into the second, or cull grade, because of the blemishes caused by these pests. But since using the spray I have no difficulty of that kind, and this past year, in a crop of 500 barrels, I doubt if a single barrel was thrown out because of blemishes of that character. Experience with the Duchess apple has been even more striking, and invariably both in quantity and quality the crop has been in proportion to the thoroughness of the spraying. This past year about fifty trees, thoroughly sprayed, were overburdened with fruit, a large proportion of which was perfect in quality, while fifteen trees, not treated, produced perhaps a barrel of fruit, three-fourths of which was imperfect. Similar results with a single exception have been obtained, I believe, by Mr. Geo. H. Bradley, who is generally recognized as hundred trees of this variety, and this past year thoroughly sprayed the orchard, and as a result harvested a magnificent crop of fruit, that gave a return, I venture to state, of more than $2,000 for the orchard of perhaps ten acres. Another neighbor, possessing an orchard of the same variety, all the conditions of which are similar to my own, has never sprayed his trees, and has never had a crop. These are the only orchards of this variety of fruit with which I am acquainted, and they have never, with a single exception, produced a satisfactory crop except when sprayed, and have not failed to produce abundant crops of fine fruit when properly sprayed. The gentleman whose orchard has continually failed informed me that his trees usually set full, but when the fruit reaches the size of hickory nuts they begin to drop, and continue dropping until harvest time, when there is practically nothing left. These results seem to prove that the failures of this variety have generally been due only to the injuries produced by the larvae of the codlin moth and the curculio, the insects by which they were infested. And in view of these experiences there can be no question of the practical value of the poisoned spray for controlling these pests, and the fact that similar results, as regards productiveness, have not always followed the similar treatment of the other kinds of apples with which our orchards are chiefly planted, simply proves, if it proves anything, that their failure is due to other causes, some of which may be of insect origin, while others are undoubtedly due to parasitic fungi, which we have come to know as plant diseases; and in the light of present knowledge it is just as absurd to declare that there are no such diseases affecting plant growth, and injuring or destroying fruit production, as it is to declare that the human system is subject to no maladies requiring the skill of the physician. Their control no doubt presents unusual difficulties, but a failure in a first effort to overcome them ought not to be a cause of discouragement. Mind has been given dominance over matter, and in the end must win the victory. Many will no doubt remember the announcement during the summer of 1891 of the appearance of a new pest in the pear orchards of Mr. Geo. T. Powell, the director of these institutes, which threatened the destruction not only of the fruit, but of the trees, and that the most skillful use of the spray pump was apparently without effect. The thorough and skillful investigations, however, of Professor Slingerland, of Cornell University, as reported in a recent bulletin, have revealed not only the whole life-history of the pest, but a reliable and practicable method of controlling it.

This incident not only illustrates the value of intelligent and persevering effort, but in an especial manner, the great importance of our agricultural colleges and experimental stations. The work that they are doing for us at this critical juncture, is of incalculable value. It is a mystery to me that our colleges of agriculture are not filled to overflowing, and the fact that they are not would seem to indicate a lack of appreciation of the magnificent work they are doing, or a failure on our part to realize the need of a deeper knowledge of the forces of nature, by which we are surrounded, and which we are seeking to control for the benefit of humanity. It seems to me, it is almost a crime that our farmers do not embrace these opportunities to educate their sons, and daughters too, for it is not to the hand alone, but to the intelligence, which guides it, that we must look for success in the future. We have here referred to only a few of the points which the intelligent and progressive horticulturist must consider, but above and beyond all, and controlling all, we find mind; and only as we find the trained mind directing and guiding all the manifold operations of the horticulturist, need we expect the highest success in fruit culture; and, even then, we must not forget that fruit culture, as well as all other branches of agriculture is a means and not an end; and as man is superior to his surroundings, because of mind, so is the highest success to be measured by the improvement of the mind itself. And only as we broaden our conception of the God-given power of mind over matter, can we dignify and enoble our calling.

Some Uses and Abuses of Education.

By Mrs. ANNA BETSFORD COMSTOCK, Ithaca.

Since our first parents wandered into the path of error, that led them to the beautiful tree, where they tampered with the fruit of knowledge, and then were punished for abusing their privileges, down through all the centuries, their story has repeated itself. Their children have followed after them, plodding along unthinkingly, like a flock of sheep, in the same erring path, and making the same mistakes.

It is a pity that we have not studied the story of Eden more thoughtfully; for it must be evident to any one, who is at all versed in the ways of the serpent, that the reason that he took his stand by the tree of knowledge, was not because of love of it, but because its fruit was rank poison to him. You will please notice in support of my theory, what he did. Did he take the interest of an horticulturist in this marvelous tree and wish to propagate it? Oh! no. He did not coax Eve to ask Adam to plant the seed, or to take cuttings and to cultivate them. He coaxed Eve to eat the apple; and so hoped to cultivate her palate to a taste for the fruit; he undoubtedly expected, in this way, to get rid of the first year's crop. The wily charmer knew well enough that stuffing apples of knowledge into a human being would work no good for the human being and no harm to himself. This is a fine point that it has taken us 6,000 years to only half discover. We are dimly recognizing the fact that knowledge is to be planted and cultivated, and not swallowed and gorged until we are miserable and the truth is lost.

Our one salvation from this sharp scheme of the serpent is the tendency in humanity to experiment. It has experimented, and history tells a tale of great suggestiveness. I wish I had the time to sketch in outline the different experiments of each century with the apple of knowledge. Sometimes its seed became scattered, and new and beautiful trees of life spread their branches and threw their shadows over the domain of man. Then did fate put its heel on the serpent's head, and he was too busy attending to his own case to give advice to anybody. But, in those ages, when men gathered greedily all the fruit and used it as a steady diet for their selfish selves, then did the serpent's head rise high in the air and his tongue advise many iniquitous and foolish things, and his tail wriggled joyously at seeing his counsel followed.

I believe that to-day we have that serpent's head in a pretty deep hole, all because we are coming to understand what the most beautiful tree in Paradise was meant for. To you horticulturists and agriculturists of this New York Eden the true meanings of education and knowledge should be easily understood.

The mind of man is the virgin soil; education is the plowing, harrowing and fertilizing of this mental soil in order that the fruit of knowledge may be planted in it and the final harvest be reaped that shall benefit the world. You will see by this definition that I would not limit the meaning to book learning. By no means; although book learning is a very important factor; indeed, it is the most practical and effective of deep-soil plows. The true definition of the Latin word from which our word "education" is derived means to "lead forth." So the spiritual definition is the leading forth of all the powers of the human mind into the light that they may grow strong. Thus, anything that cultivates our mental powers is a means of education. Do you not suppose that our pioneer forefathers were better educated in some ways than we are? Were they not alert, and all their faculties rendered keen by their struggles to wrench from the unwilling forests abiding places for their dear ones? They were obliged to think, and think hard, or else suffer for the bare necessities of life. There is something about the pioneer struggles with nature that is marvelously educating. I know a man who has been for years a guide in the great forests of the Adirondack mountains. He had but little training in the schools when he was young, but nature has been educating him ever since, until now he is one of the most interesting companions. His eye is educated to see, and his ear to hear, many things to which we are dull and blind. The sky and the waves and the trees and the trailing fern and the birds and little wild animals have all tales to tell him. They are his books, and we are not well enough educated to read them without his explanations page by page.

An educated brain is a telegraph line that connects the outside world of things with the inside world of thought; an uneducated brain is like a stage coach connecting these two worlds; it carries the messages slowly and joltingly, and carries only a few. The ignorant man sees the stars above him scattered over the night skies as if sown there by chance, without order and without relation to each other. The educated man sees in the stars systems of worlds, all moving in harmony with the laws that keep our own little planet whirling through space, always following unerringly its own invisible path.

What is the power of thinking given to us for? Is it a treasure to be hoarded and only used for our own selfish needs? Some seem to think so; and others seem to think it some untamed power, like a wild colt, that we should mount on all possible occasions and ride wherever it may take us whether in the end it dashes our brains out or not. Surely both of these ideas are all wrong. Thought is power placed at our disposal that we may train it into strength and use it to help us to discover the truth, the real truth, that underlies everything in the universe. But, in order to think and have it amount to any real good, we must know what other people have thought and where other thinkers have failed. We must see clearly on all sides of a subject or we shall be like men stumbling and groping along in the dark. Education is the light that we must have to illuminate our pathway to show us whither we are going.

But I really wish to speak to you concerning the education to be found in our schools; for this training, if conducted rightly, makes the mind strong and agile, quicker than any other sort. The education that is gained while struggling to win bread is almost always one-sided; and, while it is good for those who have received good training when young, yet to commence with that sort always builds up one side at the expense of the other. But school training should build up all sides evenly, like the foundation walls of a building, so that the structure placed above, in the after-struggle for life, shall stand squarely and be strong and even.

It is true that our schools have not always been happy in their training. Formerly there was a life-killing routine of the common branches in our district school. Education meant to us no more nor less than what was contained in our few books. We never dreamed of looking outside of our books for anything. All truth, all wisdom, were in those old readers and arithmetics, and were placed there by some miraculous power. We never thought that a man like our teacher wrote the books, and we never thought of disputing their authority as we did his. Then there came a reaction fifteen or twenty years ago. In place of the old half dozen books we had many many books written about everything in the heavens above, the earth beneath, and the waters under the earth. Our children memorized the facts in these books and could give us any amount of information with all the glibness and about as much intelligence as parrots. We had plucked the apples of knowledge for them, and had stuffed them down their innocent throats, to the ruin of their mental digestion. The results were so disastrous that we said that learning the three R's over and over, as we ourselves had to when we were held prisoners on the jack-knife-carved benches of the old district school-house, was better education than this rioting with "isms" and "ologies" for babes. However, we soon brought about a change and a new order of things. Now the ideal teaching in our common schools, is to train the children to observe the world around them for themselves, and only use their books to explain what they see. The school books in our best schools to-day, are simply used for instruction and explanation, and are inscriptions to be written under the pictures which nature is constantly painting for the child eyes to see.

The history of our colleges is not essentially different from that of our common schools. It has taken a great while to get our colleges themselves educated. Formerly colleges gave only one prescribed course of study, and every student, whatever his tastes, was obliged to follow it. This had, however, one advantage; if a student really does one thing thoroughly, he has found the mystic key that will unlock to him the door of universal knowledge. But giving the mind discipline only, through those means that teach him nothing, is like plowing the ground with a crooked stick; it is better than nothing, but it is not as good as something else. If you were going on a long journey afoot, you might get enough muscle for the journey by walking back and forth in the front yard industriously by the hour; but you would feel better satisfied to begin the journey at once, and so count each day's work as something really accomplished. Nowadays our colleges do just this for a man and women; they actually start them on life's journey. For our universities now give as many courses as there are tastes and students. Each student is taught to think for himself, and mere learning is not counted as scholarship, unless it is used as fuel, to keep the engine of thought in constant motion. It is a widespread error that committing facts to memory is both knowledge and education. This is not in the least true. There is a vast difference between remembering a thing and knowing it. We know that the sun shines, that the grass grows, that the stars are in the heavens; we do not have to remember these things. Why I once knew a man who thought no ones education complete, without a knowledge of the number of square miles, and the population of all the South American States. When I told him that I did not know, and would not know if I could, he thought me a reckless squanderer of time and opportunity. Such a man as that is next door to a lunatic; his brain is like a big old attic, filled with useless truck, confused and dusty and of no earthly use. If committing facts to memory were education, we might do away with schools, and commit to memory page after page of Webster's Unabridged Dictionary. It would take a lifetime to do it, and an educated person can get just as much as he wants out of a dictionary in five minutes any day. No, the Lord never meant the facts of the universe, to be done up in small packages, and put in a grab-bag for us to snatch out by chance. The facts of the universe are all connected and in order; the way to know them is to learn to unwind the skein on which they are strung, and so take them, one after another, as they belong. The well-trained mind understands this art of unwinding. I know well, in the great university in the middle of this State, the teachers think they have done their best for a man, if they have trained him so that he knows how to find out facts for himself, as fast as he needs to use them. When a man is educated the whole world of knowledge is open to him; and if he can not find out what he wishes in books, his mind should be capable of thinking out the truth for himself.

Man has a threefold relation: First. What he is. Second What he knows. Third. What he does. What a man is, depends upon the nature he inherits in the way of mental, physical and moral ability. Compare the man to a mill — to a flour mill: The machinery is what he inherits, what he is. Setting that machinery up so that it will work without friction, and without losses of power, is education. The position of the mill in relation to the motor power, the steam or the engine, are the man's circumstances in life. So much for the mill and what man is.

What man knows is the wheat to be ground. Now, what man knows, is what has really become a part of his thought. What he learns and forgets is really the chaff; but knowledge, the genuine article, is the wheat, which the mill grounds into the flour of wisdom; the bread-stuff the man gives out to the world. This brings in the third part of man's relationship, i. e., what he does.

Now you understand the simile. If the mill is poor or if it is not in good order, the grist will be smaller, and of poorer quality. If the wheat be poor, if what he knows is of little account, then too will the flour be inferior, however well the mill may do its work. You see what man does is the product of what he is and what he knows. This shows just what I wanted to make clear; that knowledge is not education, but putting the machinery in order is education, so that knowledge may be received and made the best of.

Now all that I have said has a bearing on the subject which interests me intensely, and that is American farm life. I have heard it said over and over, "Of what use to a farmer are most of the things you teach in your schools?" How will a farmer use algebra, or Greek, or French, or chemistry? "Well, I claim that he can find use for all these things; but my special plea is that the young farmer shall have the advantages of the mental discipline which these studies give. In short that he be thoroughly educated; for if he be this, then can he bring the whole world to the farm, and the life there be made interesting and satisfactory, and in touch with the whole universe. There is no reason why every farm home of to-day, the era of cheap books, should not have a library that will put its owners into direct connection with the best minds of the past and the present. There is no reason, I say, except the lack of true education which is the foundation of such a home. I know plenty of farm houses where there are libraries; and where every week and month newspapers and magazines bring word of what our big round world is doing on its every side. The educational advantages of the owners of these homes are nothing to what ours are of to-day. But they had the will to develop themselves and they made the best of their opportunities.

I cannot tell you how strongly I feel upon this subject. Why, my friends, what is a really ideal life? What is the life that the great aristocracies of England, France and all Europe have found best? Have they not built their great homes far from cities, where their windows command views of wide stretching meadows and shady forests — scenes not a whit better than most of us have from our own windows in these New York counties? Why are so many of our enterprising young people leaving these homes with beautiful surroundings and cramping themselves into narrow streets and close rooms and living in a brick and mortar world, which they find at first disheartening and irksome?

I lived in a city for two years once; it was a handsome city, too, the capital of our nation. What do you suppose I most cared for there? The wide, smooth streets, the magnificent buildings, the many parks, or the rush and push of human beings? I might have liked the parks, but they were so full of people that they were not restful nor peaceful; they seemed mussed over and over by humanity. The thing I loved best was a tree before my window. It grew out of a hole in the stone paving, but it spread its limbs so wide before my second story window that I forgot from whence it grew. I used to watch its swaying branches, and as I watched I forgot the noise, the heat and the surging humanity, and felt myself once more in my country home, among my beloved New York hills, where the hand of the Creator still lay in silent blessing, as it did in the beginning, after He had looked lovingly upon them and found them good.

I know my experience was not different from that of most transplanted country-bred children. The great masses of humanity seem almost suffocating and nauseating to one whose birthright is the quiet of green meadows, and the peace of the everlasting hills. Yet in spite of the homesickness which every country boy first feels when he helps swell a city's crowd, he stays on and on, until his longings are stifled and he gets used to his new environments. But why does he sacrifice himself thus? Sometimes for money, no doubt, but oftener because the farm life has seemed so narrow on its intellectual side that he has felt like a caged eagle, and finally has broken his bars and gone where he can see and know the things his brain was meant to comprehend.

Now this is all wrong; and to-day, thank God! it is needless. The young man who gets his education in our best schools to-day is a master of the universe. He does not have to fly to crowded cities to learn the best thoughts of the greatest men of our planet. He can associate with them in his own quiet home, for his library shelves give him the best part of all good men.

In the near future, indeed now, I believe, we are in the dawn of a new era in our American farm life. With improved methods of agriculture, with education in the reach of all, our farmers will be thinkers, and broad thinkers, as well as workers.

I have had people tell me that the drudgery of farm labor tired out the body so much that the mind was of no use. If that is so it is because the mind was dull and listless to begin with; too stiff and lame for use. There is no business in the world that does not mean a great deal of drudgery if it is done well. Do you suppose the farmers work hard more hours a day than do our successful lawyers, doctors or preachers? I tell you "No," and the farmers' work is health-giving and strengthening, while that of other occupations is weakening to the human frame. I have lived on a farm myself, and the farming was done well, yet there was never a year in my father's or mother's life that they did not have in the aggregate more hours to devote to study and reading than either of their children have had since they left home.

No, my friends, the farmer has the time; he has the strength, and if he had the education he might be the true king among men. His kingdom may not embrace human souls, nor vast cities, nor great armies; but he will have dominion over broad acres, rushing streams and forest-clad hills; and more than all, dominion over his own mind.

The Development of Long Island.

By NAT W. FOSTER, of Riverhead.

A goodly heritage we have, and what shall we do with it? A kind Providence has given us one of the most beautiful gardens on his footstool; delightfully situated, with a climate of rare healthfulness, a soil of great fertility and resources almost unbounded. Its waters, surrounding and penetrating, teem with food and wealth. Where much is given much will be required. Then great is our responsibility. That our island is not now more thoroughly developed may not be our fault, but if it remains undeveloped blame must lay at our doors.

We may complain of the excessive freight charges and lack of passenger accommodation on the railroad; of the old-fogyism, selfishness and narrow-mindedness of some; of the altogether unnecessary abundance of saloons, tempting employer and employed to waste time and money, unfitting them both for useful labor and preparing them for deeds of darkness and destruction; and of many other relics of darkness, all of which we firmly believe have terribly interfered with our progress in the past. Yet, complaints alone will not suffice. Let us carefully consider the condition that confronts us; profit, if we may, by the mistakes of the past and thoughtfully plan for the future, making better what we can and the best of what we can not make better. Among the things needed, and this largely, or, perhaps, wholly, within our ability to provide, we find all over our island a call for good roads. What a long-suffering people we are! Why have we so long been content to travel over such roads?—some sandy, very; others loamy, at times heavier and more to be dreaded than the sandy ones; both good at times, both bad a great deal of the time; yet, if some of each be properly mixed and properly cared for, good at all times. Is it long-suffering we are, or indolent? How justly proud we are of our so-called system of working our roads! Generally, the great expense or cost of better roads, like a bugbear looms up before the eyes and pockets of tax-payers, preventing any further attempt at betterment. Is it as great as it looks? Has not the constant cost of the present poor roads been overlooked?—more feed, more time, more wear of team and wagon, more danger to health and life and limb. All these considered, we ask in sincerity: Are not good roads cheaper? And are not poor roads a greater tax than any tariff? We are encouraged by the fact that much thought is now being given to this matter throughout the State. The late message of Governor Flower contains some very sensible suggestions upon the matter, worthy the consideration of all. One instance, with which I am personally conversant, may suggest or lead to something better. In the village of Riverhead, as an experiment, on a portion of Main street, from gutter to gutter, the top was taken out for five or six inches deep; this was filled with broken stone from Tompkins' Cove, of the size known as two and one-half inches, put in four and one-half inches deep, this covered with one and one-half inches of the same of a finer grade, rolled down with the heaviest roller obtainable. After one year's trial it is pronounced good. The entire cost for 100 feet long and fifty feet wide was $250. Now we have a good, smooth, hard road at all seasons, under the heaviest traffic of the village, requiring few if any repairs each year; whereas, before the town had to buy and cart loam at an expense of seventy-five cents per load, liable the next day, if not the same, to be largely washed into the river by the first rain, to say nothing of mud and dust. Get good roads and keep them. Plant trees to shade them. We all appreciate a good, shady road on a hot day. Europe, in this matter, is far ahead of us. In many parts of Germany the government plants fruit trees by the roadside, letting them out to the highest bidder, he often getting therefrom a handsome income.

People of Long Island, are we willing to be beaten by any foreign nation? We need a railroad service that will not antagonize our interests; that will offer inducements for desirable people to settle in our midst. Frequent trains, low fares and reduced freight rates. We believe the railroad company could well afford to bring out to the farmer the fertilizer he needs at a mere nominal charge. or even without charge, getting their compensation and an abundance of it, in increased shipment of produce to market. Other places near New York and other cities have been largely built up by liberal railroad management that induced business men and mechanics to make their homes in the country, with full assurance that transportation would not fail them. Why? Why has not Long Island thus been put to the front? Railroad facilities have been somewhat extended to certain schemes of a decidedly doubtful character, bringing into different parts of the island numbers of undesirable people to buy city lots among the scrub-oaks, yet if for a farmers' institute or a church dedication or a Sunday school excursion special rates or a special train are asked for, special rates are offered, but at specially high figures. We are sorry that we have to speak so emphatically; may we hope for something better?

It seems very evident that Long Island outside of Kings county is not getting from the general and State governments as much help in developing her resources as she ought to receive. Situated outside of the usual route of travel, without a resident representative in Congress, she is quite often overlooked. Look at the North Shore, from Orient Point, where for years our seafaring men and vessel owners have prayed for a much needed lighthouse, yet in vain; to Port Jefferson, a distance of sixty miles, without a harbor. A little outlay would give a breakwater at Horton's Point and open the entrance to Mattituck creek and at Wading River, where vessels in distress could make safe harbor and farmers could find new markets for their produce. With comparatively small expense it is said a canal could be dug in connection with the Great South and Shinnecock and Peconic bays, forming an inland route which would tend largely for the benefit of the island and its people. It has been often said that probably no other part of the earth of equal area possessed such great variety of soil, climate and productions.

At a farmers' institute in Jamaica a professor from Geneva experiment station said when he left home he rode through snow banks five feet deep; the next day upon reaching Long Island, found farmers planting peas. Two towns of Suffolk county produce and send to the New York market annually more cauliflowers than the rest of the United States; yet in Queens county no less an authority than Wm. Falconer assures me that on Mr. Dana's farm at Glen Cove, they could barely raise enough for family use. Who will say that an experiment station here is not a necessity? Who will give a satisfactory reason for the failure to come up of so many fields of potatoes in years past? Or why some crops do not pay as well as formerly, or answer any of the numerous questions vital to succesful farming that every farmer needs to know? To ascertain the cause and discover the remedy of these and other difficulties the State has established stations and Long Islanders pay taxes to sustain them. Long Island is entitled to an experiment station on her own soil, in her own climate, and demands it. Two years ago a bill appropriating $5,000 to start a branch station here passed the Senate, but was killed by political influence in the Assembly. Politics has not, thus far, proved a good fertilizer on Long Island; still, efforts are being made and prominent men in different parts of the State are working to secure for us just this thing. Prospects are brighter than before, but just what is being done it seems best at present not to publish. But to the end that it may be secured, let every Long Islander use all his influence with our representatives at Albany that they may render assistance when the time comes. The prosperity of the island is bound up in the farmers, all other interests depending largely upon them. One great factor in their success is the price and quality of fertilizers. On the eastern end of the island a very important industry, involving nearly or quite $1,000,000 capital, employing about 1,000 men and twenty-two steamers are taking from the sea to enrich the land immense quantities of menhaden fish, which not only furnish a valuable fertilizer, but oil for painting. To show how closely allied this industry is to every farmer on the island, let me quote from an address delivered before the Massachusetts State Board of Agriculture, by Wm. H. Bowker, the manufacturer of a fertilizer well known to all. He says: "Chemists tell us that a plant will not grow without a supply of nitrogen, phosphoric acid and potash. A ton of menhaden fish contains 160 pounds of nitrogen and 140 pounds of phosphoric acid, or 300 pounds of actual plant food, worth in the market from thirty-five to forty dollars. In 1884 nearly 69,000 tons of plant food was taken from our Atlantic waters, which yielded over 10,000,000 pounds of nitrogen and 9,000,000 pounds of phosphoric acid. Thus in a single year the menhaden fisheries yielded enough nitrogen and phosphoric acid to manure fully 500,000 acres of potatoes of 100 bushels each, or 200,000 acres of corn of fifty bushels each. To put it another way, enough nitrogen, the most costly part of a fertilizer, was taken from the sea in 1884 to furnish the nitrogen for all the fertilizers sold that year in the New England and Middle States, fully 200,000 tons. The menhaden fish being such a valuable and abundant source of plant food, it seems evidently designed by nature in some measure to restore fertility to our soil." The great catch of menhaden fish from 1875 to 1885 was one of the chief factors that brought down the price of commercial manures and guano from sixty dollars and seventy dollars a ton, to forty dollars and forty-five dollars a ton, and it will have just as potent influence in the future. This industry gathers wealth that otherwise would be lost. Yet this State, and other States, and even the Congress of the United States, are striving to crush it out. Here, as in the experiment station, politics worketh evil. Some sportsmen, because line fishing has been at times not as good as formerly, have started the cry that the menhaden fishing drove away the good fish and began to howl, "Down with them, down with them." One of the best fish commissioners New York State ever had, E. G. Blackford, thought that this was true; he investigated the matter and found that he was entirely mistaken. The last act of Governor Hill was to remove Mr. Blackford. One result of this, and injudicious legislation, prevented fishing where the fish happened to be last year. Again quoting Mr. Bowker: "The farmer this year will have to pay for fish scrap from five dollars to seven dollars per ton more than he did in 1891." And again Mr. Bowker says: "For the eastern farmer, this question of plant food is becoming a serious one. The supplies heretofore received from the great packing and slaughtering houses of the West must ere long be used on the great wheat and corn fields nearer home. Then the Middle and Eastern States' farmer will be forced to pay much higher prices for the needed plant food, unless he is allowed to draw upon the inexhaustible stores in the sea. It has been abundantly proved that this industry in no way interferes with the supply of food fish or of line fishing. When successful, it means cheap fertilizer for the farmer." Farmers, you are vitally interested in its success. Use your influence wherever you can to overcome this absurd idea, started by sportsmen, repeated by some hotel keepers, that this industry must be crushed. They are vigilant, seeking every means whereby they may accomplish their end, your interest they do not consider. You must be watchful and vigilant or you will find when too late that you are paying heavily for their enjoyment.

What though we have beautiful surroundings and large resources, yet all these count for little unless controlled and utilized by people of intelligence and broad minds. The State has wisely provided for farmers' institutes and dairy conferences to be held in different parts of the State. Thanks to our present director, Mr. Powell, ex-Secretary Woodward, our lamented friend, the late Colonel Curtis, Mr. Eastman, W. H. Gilbert, and others who have done great and good work to get them fully established, they have done much and are continually doing much good. Farms are managed more wisely and economically and successfully therefor. Farmers and others who will take the trouble to attend, especially if they will bring their wives, can not help being benefited. They receive new ideas, old ones are confirmed or perhaps wiped away, and they are aroused to think for themselves. These, like country fairs, are great developers. Many years ago, in Suffolk county, there was organized a county temperance society, meeting monthly in different parts of the county.

Delegates were hospitably entertained, the social element was largely cultivated, sharp corners rubbed off, and the people began to learn that others knew something even better than themselves. This society had an influence elevating and ennobling. Improvement societies in various parts of the country have worked wonders. Stockbridge, Mass., was a wild, rugged place — not the most beautiful place in New England. One woman started an association — at their quarter centennial the treasurer reported "every acre of land and every homestead has appreciated by reason of the work of this association." A wealthy New York merchant passing through, attracted by the neatness of the streets, the adornments of the grounds and surroundings of the houses, thought a home there would have increased attractions and higher value. He put up an elegant mansion; that attracted others. Stockbridge now is full of the homes of wealthy people. Litchfield, Conn., was fast going to decay, everything was neglected. Seven years ago an association was started. A wealthy gentleman from the city was asked how he came to make his home there. "Well," he said "you could not have got me to come up here if the old fogy spirit prevailed as it did ten years ago; but I found new life and interest here, and it was worth while to have a summer home here." Their boarding-houses and hotels are not ample enough to accommodate the parties that go there. Middlebury, Conn., with less than 800 population, and very scanty means, by getting everybody enlisted and co-operating have improved the village green, the farmers have said "we will have no rubbish, no weeds, nothing to disfigure our homesteads." How few of our Long Island villages have public greens or parks. Why not? How many farms are bounded on the roadside, and for that matter all over the farm, with weeds and rubbish? Does it pay? Pomfret, Conn., was too a declining town, but in 1883 an improvement society was started in which the ladies were efficient; soon raising $1,400. The first result was substantial sidewalks, extending about two miles, underdrained with stone and bordered with grass. Three neat little parks, and so generally have the homesteads been improved that a prosperous future is assured. How few of our villages are proud of their sidewalks. A public green association, probably the first of its kind, was formed at New Haven 100 years ago by James Hillhouse, giving to it most liberally himself; he raised $1,500 for "grading the green and planting elms." This inspired civic pride and local patriotism among its citizens, making it a city of beautiful homes. Numerous other places might be cited, did time allow. If improvement societies have done so much elsewhere, people of Long Island, can we afford to be without them?

Hon. B. G. Northrop, of Conn., who perhaps has done more and given more attention and study to this matter than any other man, says: "It tends to fraternize a community, when all classes meet on common ground and work for common objects, where differences of rank, wealth, sect or party are forgotten." He gives an illustration: "In a town with a polyglot population (and therefore hard to unify), engaged in extensive quarrying and manufacturing, on a given day the mills and quarries were all 'shut down,' stones and teams were furnished free and owners and operatives joined with the citizens in a big 'bee.' Many hands made light work and all had a good time. From that day they have thought more of one another, more of their town, and best of all, more of their homes, which richly shared in these improvements, as did the sidewalks, cemeteries and other public grounds. This hearty co-operation of all classes, promoted good fellowship and made the humblest workman proud of the achievements of that memorable day. The escutcheon of the Swiss Confederacy, 'One for all and all for one,' suggest the true motto for every village improvement society. The home should be always the objective point. The hope of America is the homes of America. Men of culture shun narrow-minded communities. A good name tends to enrich a town as well as an individual, while a bad repute may impoverish both. These organizations foster that local patriotism and town pride which invite and facilitate liberal plans and gifts, suggesting to every citizen the question, 'What is it my privilege to do for my town.' The patriotic sentiment which cherishes one's town is noble and ennobling. The man who cares not for his native town, nor that of his adoption, has no heart in his bosom." What a wonderful development we might expect with a live improvement society in every village. Shall we have them? A few may start, more would be better. Like the measles this matter is catching. Let it catch. Organize. Put your best men or women at the front. Appoint committees for entertainments, to collect funds, to improving sidewalks, to make better roads, to plant trees, to beautify the homes. Meet often. Talk it up with each other. Speak well of your neighborhood and locality when away. Inspire in the children at home and at school a desire for the welfare of village and town. Make the most of Arbor Day. Ask wealthy people to assist to found libraries or in whatever way they choose. Each doing a little, much is done, and all rejoice. People of Queens county and people of Suffolk, we are brethren. Let us not forget that what helps one part of the island helps the whole. These items of which we have spoken are only a few of the many means that may be used to develop Long Island. Of themselves they can do nothing. They must be faithfully, diligently used. We must use them. Let us then be up and doing. Ready, one and all, with word or hand or purse to help every effort for the betterment of humanity, the glory of God and native land.

Some Old Mistakes and Some New Facts About Milk and Cheese.

Farmers' Institute.

Last season it was my privilege to present the results of some preliminary experiments in cheese-making that had been made at the New York Experiment Station, at Geneva, in co-operation with the New York State Dairy Commission. During the past season the investigation has been continued on a more extended scale. We have made experiments one week in each month, from May to October, in five different cheese factories, located in Oneida, Oswego, Jefferson and St. Lawrence counties, making an average of ten experiments in each factory. In addition, we have made experiments at the Geneva station, one week or more in each month; in all we have made 106 experiments, and, in this work, have used over 200,000 pounds of milk, representing the product of not less than 1,500 different cows. The results may, therefore, be fairly claimed to represent the average conditions that prevail in our State more closely than any other data now existing. Time will not permit me to describe this work, or to give many details respecting the results, but I may say, briefly, that we have tried to learn all we could in regard to the details of cheese-making — the losses connected with it, the conditions which produce increased losses, and the influence of various conditions upon the yield and quality of cheese. We have reached one conclusion, about which we are very positive, and that is this: We have very much yet to learn. However, the new facts secured, the actual advance made beyond our previous knowledge, and the general progress made in the work of our first season, have been such as to encourage us for our future work. We hope, as a final result, that the various conditions relating to cheese manufacture may be more clearly understood, and that, in consequence, the details of the process may be brought under better control, so that the maker can turn out, with certainty, just the kind of product he wishes to make, securing the greatest possible yield compatible with the highest quality.

At this time it is my purpose to apply some of the results secured in this investigation to the discussion of the two following live practical dairy questions: First, fat in milk, as a basis for determining the value of milk for cheese-making; and, second, the influence of skimming milk upon the composition and yield of cheese.

Fat in Milk as a Basis for Determining the Value of Milk for Cheese-making.

Nearly all of the cheese factories in New York State now pay for milk according to the amount each dairyman furnishes. This method is based upon the assumption that, for the purpose of cheese-making, milk is milk; that all kinds of normal milk are of equal value for cheese production. This assumption, upon which the whole method rests, is, as I hope to show, an old mistake.

As all of you know, it has been proposed to discard the present method and to pay for milk at cheese factories according to the amount of fat contained in it. Two questions at once suggest themselves — first, is this proposed method practicable; and, second, is it fair?

First. Is this method practicable? Three years ago the services of an analytical chemist would have been necessary to make use of this method; but, within the past three years, there have been placed within reach of dairymen, methods for determining the amount of fat in milk — simple, cheap, rapid and accurate, leaving nothing to be desired in these respects. These methods render practicable the frequent determination of fat in every patron's milk. I may state here, as I have often done in private, that, all things considered, I regard the method devised by Dr. Babcock as the one most desirable for use, either in private or public work. As to the second question:

Is this method fair, as compared with the present method of paying for milk? Does it recognize the cheese-producing power of all kinds of milk? Does the fat in milk furnish a satisfactory guide in regard to the amount of cheese that can be made from milk? Is it equally fair to the man who produces milk containing three pounds of fat in 100 pounds of milk and to the man whose milk contains four pounds of fat?

Among dairy students there was, at first, considerable difference of opinion, some holding that fat, being only one of the constituents of milk that enter into cheese, could not, alone, be an accurate guide as to the cheese-making value of milk. But I think it is now the universal belief among those who have fairly studied the question that the fat in milk, while it may not be an absolutely accurate guide as to the amount of cheese that can be made from milk, affords, nevertheless, a basis so much more accurate than any other method employed or proposed that it is the most satisfactory and just guide ever used in enabling one to judge of the value of milk for cheese-making. Now, while this is generally believed by our best dairy thinkers, still no one has yet been able, strange as it may seem, to prove beyond all doubt that the fat in milk furnishes the most accurate practical basis for judging of the cheese-producing value of milk. Some objections have never been fully met, and the most that can be claimed as proved is that the fat in milk furnishes a better basis for paying for milk at cheese factories than the present common method of paying for quantity regardless of composition.

The investigation made during this past season has developed a large number and variety of new facts, which enable me, as I believe, to demonstrate beyond reasonable doubt that fat in milk furnishes not only a fairer basis for judging of the value of milk for cheese-making than the method now used, but that it furnishes the most accurate practical basis, considered from all points of view, that has ever been proposed, or is likely ever to be proposed.

I propose now to take up the various objections that have been raised against the use of fat in milk as a basis for determining the value of milk for cheese-making. I may say, at the outset, that the man who is loudest in making objections to this method is always the man who knows (or is afraid) that his milk is poor in composition; and, where the method has once been introduced, the most vigorous "kickers" were those who thought they were producing milk above the average but found that, in reality, it was below the average.

First Objection.

It is claimed that normal milk, poor in fat, contains a larger amount of caseine, relative to the fat, than does milk, richer in fat; and that, hence, an increase of fat in milk is not accompanied by a corresponding increase of other cheese-producing constituents of the milk.

Before dealing with this objection in detail, let us turn aside to consider briefly what compounds in milk make it valuable for cheese production. The production of cheese is, for the most part, dependent upon two, and only two, compounds contained in the milk — these are fat and caseine. The other constituents of the milk, the milk sugar, the ash and the albumen pass into the whey for the most part. Ordinarily, the word caseine, when used in connection with the composition of milk, includes caseine proper and albumen also; but, in speaking of milk for cheese production, we should make a distinction, since, in our present methods of cheese-making, only the caseine is coagulated by rennet and held in the cheese, nearly all the albumen passing into the whey. In using the word caseine, therefore, I mean caseine proper and do not include albumen.

Now, to come back to our main subject, is it a fact that milk, containing, say, four pounds of fat in 100 pounds of milk, contains less caseine in proportion to its fat, than does milk containing three pounds of fat in 100 pounds of milk?

While there is considerable variation when we consider individual cases — and this question can be answered by both yes and no — if we are allowed to cull out individual cows, what do we find as a rule? Taking the large amount and variety of milk that we have worked with during the past season, and averaging all of our results, we find that in normal milk when the fat increased one pound, the caseine increased two-thirds of one pound. This general result, at first sight, seems to confirm the objection under discussion, viz.: That the fat increases more rapidly, in proportion, than does the caseine. But let us consider it more closely.

To illustrate, we will suppose that two dairymen furnish all the milk of one factory, each furnishing one-half. In 100 pounds of the milk of No. 1 there are three pounds of fat; in the milk of No. 2 there are four pounds of fat. The facts in my possession show that these two milks will contain the following amounts of caseine:

No. 1. Pounds of fat in 100 pounds of milk, three.

No. 2. Pounds of fat in 100 pounds of milk, four.

No. 1. Pounds of caseine in 100 pounds of milk, two.

No. 2. Pounds of caseine in 100 pounds of milk, 2.67 (2 2-3).

The fat in the milk of No. 1 increases one pound, or one-third of itself, in going from three to four pounds as in No. 2. At the same time, the caseine increases from two pounds in No. 1 to two and two-thirds pounds in No. 2, an increase of two-thirds of one pound, which is exactly one-third of two pounds, the amount of caseine in No. 1. The fat increases one-third of itself, and, at the same time, the caseine increases one-third of itself, or in exactly the same proportion as the fat. In No. 1 the caseine is two-thirds of the amount of fat; in No. 2, the caseine is also two-thirds of the fat in amount. Hence, the caseine increases in just the same proportion as the fat. While this general rule does not hold true in all individual cases, since the fat sometimes increases without any increase of caseine, and vice versa, the caseine sometimes increases when the fat does not, remember that the results given are the average of results secured during the season of six months in several different cheese factories.

Another fact of interest in this connection is that, in our study of dairy breeds at the Geneva station, we find that the advance of lactation exercises a marked influence upon the amount of caseine and albumen in milk. It is a well-known fact that the amount of fat in 100 pounds of milk increases as the lactation period advances, and, from the data we have thus far secured, it appears that the caseine and albumen not only increase as the period of lactation advances, but that they increase more rapidly, in proportion, than does the fat, the amount of caseine and albumen tending to catch up more nearly with the fat.

Now, what should each of these two dairymen mentioned receive for each hundred pounds of milk, if each were paid for both the fat and caseine actually present? The market value of caseine averages about two cents per pound, while that of milk-fat in the form of butter or cheese, averages about twenty-five cents a pound.

No. 1.

Three pounds of fat at 25 cents	$0 75
Two pounds caseine at 2 cents	4
Total	$0 79

No. 2.

Four pounds of fat at 25 cents	$1 00
Two and two-thirds pounds caseine at 2 cents	5 1-3
Total	$1 05 1-3
Difference in favor of No. 2	26 1-3

For the sake of seeing the results, suppose we grant, what is not true in fact, that milk No. 2, which contains four pounds of fat in 100 pounds of milk, contains no more caseine than No. 1, the milk containing three pounds of fat. Then the statement will stand as follows:

No. 1.

Three pounds of fat at 25 cents	$0 75
Two pounds caseine at 2 cents	4
Total	$0 79

No. 2.

Four pounds fat at 25 cents	$1 00
Two pounds caseine at 2 cents	4
Total	$1 04
Difference in favor of No. 2	25

It is readily seen that the money difference in favor of No. 2, the produce of the better milk, is and must be greater when the amount of caseine is considered than when the amount of fat alone is used. I would, therefore, advise the producer of poor milk to say nothing about the caseine; for, the less he agitates this point, which he has supposed to be in his favor, the less will his own real interests suffer. The producer of the better milk can afford to let the caseine drop out of consideration; he will be satisfied to get pay for the extra amount of fat in his milk, which he does not get now, as we can see. For the sake of comparison, let us see how much each of these men receives for his milk according to the method now prevalent in New York State, taking the value of milk-fat at twenty-five cents per pound.

The account will be as follows:

One hundred pounds of milk of No. 1 contains three pounds of fat.

One hundred pounds of milk of No. 2 contains four pounds of fat.

Two hundred pounds of milk of No. 1 and No. 2 contains seven pounds of fat.

Seven pounds of fat at twenty-five cents, 175 cents.

Each man furnishes the same amount of milk, and, therefore, each shares equally in the income.

No. 1 receives eighty-seven and one-half cents.

No. 2 receives eighty-seven and one-half cents.

What does this mean? It means nothing more nor less than that, on every hundred pounds of milk each of these men carries to the factory, No. 1 is allowed to take, at least, twelve and one-half cents that should go into the pocket of No. 2. It is in reality a system of robbery legalized by common consent and permitted on account of ignorance of facts. It is not business.

I have used the figures three and four pounds of fat in 100 pounds of milk, because they enable us to grasp the difference more readily. But actual observations made in many factories throughout the State show that this difference really exists between the best and the poorest milk at most factories. But whether such a difference is common or exceptional, the same proportion holds true, when the difference is only one-half or one-tenth of a pound of fat in 100 pounds of milk. Under the present system of payment, the producer of poor milk has a most decided advantage.

Second Objection.

It is claimed that milk rich in fat does not produce as much cheese in proportion to each pound of fat, as does milk poorer in fat, and, therefore, the fat can not be taken as a just basis in paying for milk. This is really the same objection as the one we have been discussing, differing only in form of statement; and we could dismiss it as already disproved; but it is desirable to present other figures and facts, in order that we may make our arguments more complete. I may say, first, that the above objections hold good, if we compare skim-milk and normal milk; but we are now discussing normal factory milk as we have found it in New York State.

Month.	Pounds of fat in 100 pounds of milk.	Pounds of green cheese made for each pound of fat in milk.
May	3.20	2.73
June	3.58	2.76
July	3.63	2.75
August	3.77	2.66
September	3.81	2.60
October	4.14	2.86
Average	3.69	2.73

We notice the following points in connection with the table above:

First. During May, June and July, the amount of cheese made for each pound of fat in the milk was very nearly the same, varying only from 2.73 to 2.76 pounds, although the fat in the milk increased each month.

Second. In August, the fat increased only a little over that of July, while there was a noticeable drop in the proportion of yield from 2.75 to 2.66 pounds for each pound of fat in the milk. This was due, in part, to the fact that the August cheese contained somewhat less moisture.

Third. In September, the fat in the milk was practically the same as in August, but there was a still further decrease in yield of cheese for each pound of milk-fat. This decrease in the September yield is explained readily by an interesting fact connected with the food of the cows, which consisted, more or less, of the soured refuse of a corn-canning factory. This produced a tendency to floating curd and to increased loss of fat in the whey. The loss of yield was, therefore, in no way connected with the increase of fat in the milk.

Fourth. In October, when the fat in the milk was highest, each pound of fat went farther in making cheese than at any time during the six months, producing 2.86 pounds of cheese. This was due to two causes; (1st). The caseine in this milk, compared with that of the preceeding months, increased in greater proportion than the fat; and (2d) a larger amount of water was retained in the cheese.

These results show that it is a mistake to claim that, in normal milk, the cheese-producing power of the fat in the milk diminishes as the fat increases. The results indicate that, on an average, the cheese-producing power of the milk is closely indicated by the amount of fat in the milk, especially if the milk is in perfect condition and if the conditions of manufacture are kept uniform. So far as our facts go, it appears that, taking the season right through, we can ascertain the amount of green cheese that should be made from 100 pounds of normal milk by multiplying the per cent of fat in the milk by 2.75.

Third Objection.

It is claimed that the loss of fat in cheese-making is much greater in case of milk rich in fat than in case of milk poorer in fat. Let us appeal once more to our facts:

Months.	Pounds of fat in 100 pounds of milk.	Pounds of fat lost in whey for 100 pounds of milk.	Per cent of fat in milk lost in whey.
May	3.20	0.29	9.06
June	3.58	0.27	7.55
July	3.63	0.31	8.54
August	3.77	0.32	8.50
September	3.81	0.35	9.19
October	4.14	0.31	7.48
Average	3.69	0.31	8.40

This table suggests the following statements of fact:

First. In May, when the amount of fat in the milk was least, the proportion of fat lost in the whey was greatest but one.

Second. In October, when the amount of fat in the milk was greatest, the per cent of this fat that was lost in the whey was least of any month during the season.

Third. The greatest loss occurred in September, when the work was done at a factory where the cows were fed the soured refuse of a corn-canning factory.

Even more striking differences would appear if I were to present the individual results of our 106 experiments instead of the monthly averages of the factory experiments.

The facts justify us in saying that it is not generally or necessarily true that milk rich in fat loses a larger proportion of fat in cheese-making than does milk less rich in fat. The loss of fat in cheese-making is governed more by the condition of the milk and by the conditions of manufacture than by the amount of fat in the milk. A good cheese-maker can not avoid considerable loss of fat with milk that has been produced and kept under unfavorable conditions, while a slovenly, careless maker will have large losses of fat with perfect milk.

The three objections which I have noticed have reference to the composition of the milk. To summarize briefly, it has been urged that the amount of fat in milk is not an accurate guide in regard to the amount of cheese that can be made from the milk, because,

First. Milk rich in fat does not contain as much caseine in proportion to the fat as does milk poorer in fat.

Second. Milk rich in fat makes less cheese in proportion to its fat than does milk poorer in fat.

Third. Milk rich in fat loses a larger proportion of fat in manufacture than does milk poorer in fat.

The numerical facts presented show pretty conclusively that, while the above claims may be true in individual instances, they do not hold true in general, but the very opposite is true. These facts ought to make it clear that the fat in milk is an accurate guide in regard to the amount of cheese that can be made from normal milk, so far as the ordinary composition of the milk itself is concerned, and that, therefore, the fat should be used as the basis of payment for milk in cheese-making.

I have already hinted at two sources of trouble which may arise and which may be offered as objections to paying for milk by this method. I believe, however, that these points have not been commonly considered in this connection, as they have nothing whatever to do with the ordinary composition of milk.

The first point is this: Tainted milk, whatever its cause, will not make cheese according to the amount of fat it contains. I do not propose to discuss the causes that may produce tainted milk, but suffice it to say that they are remediable, and that, as a rule, the amount of fat will not serve as a guide to show the amount of cheese that can be made from tainted milk; for, in making cheese from such milk, large losses of fat usually occur. This is just as true of milk poor in fat as of milk rich in fat; except, I believe, that the man who takes pains to produce milk above the average will generally take good care of his milk and will not be likely to suffer from taint in his own milk. The production of tainted milk would not be so exasperating, if only its producer suffered loss, but he makes every other individual patron suffer. He is much like a person who, in his ignorance and carelessness, exposes others to a contagious disease, with which he himself is unnecessarily afflicted. What is the remedy? Quarantine his milk as you would a case of smallpox or cholera. Keep his milk in quarantine until it has recovered from its disease; that is, until he has learned to produce good milk. Such a condition is needless and remediable, and, therefore, the fact that the fat in such milk does not serve as a guide to its cheese producing value is no argument that it is not a true basis in case of good milk. We in New York may learn a lesson from Wisconsin about methods of dealing with the producers of tainted milk; and I hope Dr. Babcock will find time to tell you, as he told me some time ago, some of their experiences with drastic remedies.

The second condition that renders the fat an unreliable guide as to the cheese-making value of milk, is a careless, slovenly, filthy cheese-maker. But this condition is remediable, and, moreover, affects all patrons alike, so that this, in reality, presents no objection to the use of fat as a basis for paying for milk for cheese-making.

In conclusion, let us ask why the present method used in New York State in paying for milk at cheese factories should be discarded.

First, because it does not recognize the fundamental fact that milks differ in regard to the amounts of cheese they can produce.

Second, because the method is unjust and is not business-like. The intelligent dairyman who produces milk better than the average is allowed money which belongs to him to be taken from his pocket and transferred to that of his ignorant, shiftless neighbor. This is not imagination; it is fact.

Third, because the present system discourages the production of good milk and encourages addition of water, skimming, etc.

Finally, why should the amount of fat in milk be used as a basis in paying for milk at cheese factories ?

First, because the amount of fat in milk is an accurate guide in regard to the amount of cheese that can be made from normal milk. This recognizes the important fundamental fact that different milks possess different values for cheese-making.

Second, because this method is just to all, and is, therefore, in the highest sense businesslike. It guarantees pay for what is in the milk that makes cheese.

Third. Because the adoption of this method will result in an improvement in the character of the milk production. Why? Because it offers an inducement to each dairyman to improve the composition of his milk. It puts more money into the pocket of the man who produces the better milk. This improvement will be realized as a result of more careful selection of dairy animals, more attention to breeding, more intelligent and economical feeding, more humane treatment of dairy animals and better care of milk.

Fourth. Because all temptation to adulterate milk by watering or skimming will be removed, for a man will receive pay for just what he furnishes that is of most value for cheese production.

Fifth. Because the production of milk of a higher character as regards composition and other qualities must inevitably be followed by an improved yield and quality of cheese and by all that this implies.

The Influence of Skimming Milk Upon the Composition and Yield of Cheese.

It is commonly believed that the same kind of cheese can be made from normal milk containing three pounds of fat in 100 pounds of milk, and from skimmed milk, containing three pounds of fat in 100 pounds of milk, made, for example, by removal of one pound of fat from 100 pounds of normal milk containing four pounds of fat.

Let me show you the composition of two such milks and also the composition of the cheese made from them, under the same conditions of manufacture.

Fat, pounds per 100, normal milk, three.
Caseine, pounds per 100, normal milk, two.
Fat, pounds per 100, skimmed milk, three.
Caseine, pounds per 100, skimmed milk, 2.67.

When milk is skimmed, fat is removed, while the caseine is not diminished. Therefore, the greater the amount of fat removed, the more caseine there will be in proportion to the fat left. In normal factory milk, we have found that there is, on the average, 1.5 pounds of fat for each pound of caseine (not including albumen). This proportion is fairly uniform and is quite sensitive. For example, the removal of one-tenth of the fat from normal milk reduced the fat to one and a third pounds for one pound of caseine in milk. Removal of one-fourth of the fat from normal milk reduced the fat from 1.5 pounds to 1.1 pounds for each pound of caseine. Removal of two-fifths of the fat from normal milk lowered the amount of fat below that of caseine, so that there were only eight-tenths of one pound of fat for one pound of caseine. If there is less than one and a third pounds of fat for each pound of caseine in the milk, it may be regarded as pretty good evidence that the milk has been skimmed, no matter how much fat it contains. However, I propose to extend the study considerably farther before stating confidently that this can be used as a thoroughly reliable means of distinguishing skim-milk from normal milk.

Now, let us examine the composition of the cheese made from the normal milk and skim-milk under discussion.

Fat, per cent, cheese from normal milk, 32.24.

Caseine, per cent, cheese from normal milk, 23.53.

Fat, per cent, cheese from skim-milk, 28.72.

Caseine, per cent, cheese from skim-milk, 27.70.

Notice the amount of fat and of caseine in each cheese. This tells the whole story. In the cheese made from whole milk, there are about 1.4 pounds of fat for one pound of caseine, while in the cheese made from skim-milk there is only a little over one pound of fat for one pound of caseine. Skimming milk reduces the per cent of fat and increases the per cent of caseine in the cheese very much as it does in the milk. In experiments made with nearly 100 normal milks during the past season, we have found that the fat in cheese made from normal milk varies from 1.35 to 1.50 pounds or more for each pound of caseine in the cheese. In only a single instance did cheese made from normal milk contain less than 1.3 pounds of fat for one pound of caseine; and in no case did any cheese made from skim-milk contain as much fat as 1.3 pounds for one pound of caseine. I am encouraged to believe that these facts, should they be confirmed by our future work, will furnish us a practical working basis for determining whether cheese has been made from normal or skimmed milk. The foregoing facts should make it clear that we can not skim milk, little or much, and make from it a cheese that is like cheese properly made from any normal milk. One qualifying statement should be made here. A cheese-maker, who, through carelessness or ignorance, losses an extra amount of fat in the process of manufacture, brings about the same results as skimming, though he may not be able to go quite so far as the skimmer. But it is easy to see that the use of badly tainted milk or improper conditions of manufacture may result in making skim-milk cheese from whole milk.

One more question — which pays better, to make normal milk, containing four per cent of fat into cheese or to remove one pound of fat and make butter and skim-milk cheese? We have the following data: From 100 pounds of normal milk containing four pounds of fat, there can be made about 11.10 pounds of green cheese. If one pound of fat is removed and made into butter, it should make 1.10 pounds of butter, while the remaining skim milk should make 9.60 pounds of green skim-cheese. If the whole milk-cheese sells for ten cents a pound, the skim-milk cheese will not be likely to sell for more than nine cents a pound, which is, perhaps, too much. Allow twenty-five cents a pound for the butter, deduct in each case one cent a pound for making cheese and four cents a pound for making butter. The account will stand as follows:

Normal Milk Made into Cheese.

	Cents.
Eleven and ten-hundredths pounds cheese at ten cents...	111.0
Deduct 11.1 cents for making	11.1
Net receipts from cheese	99.9

Normal Milk Made into Butter and Skim-milk Cheese.

	Cents.
Nine and sixty-hundredths pounds cheese at nine cents ..	86.4
Deduct 9.6 cents for making	9.6
Net receipts from skim-milk	76.8
One and ten-hundredths pounds butter at twenty-five cents,	27.5
Deduct 4.4 for making	4.4
Net receipts for butter	23.1
Total net receipts from skim-milk, cheese and butter	99.9

The income, based on the foregoing estimates, would be the same in either case.

I wish it was possible to impress upon the dairymen of New York State and of all the dairy States the four following points:

First. They can not remove fat from milk, little or much, and make from the skim-milk a cheese that is like cheese properly made from any normal milk.

Second. The average dairy milk of New York State is none too good in its normal condition for cheese-making.

Third. It is doubtful if it usually pays to make butter and skim-milk cheese instead of whole milk cheese.

Fourth. If the conditions of the market and the composition of the milk are such that it pays better to make butter than whole milk-cheese, then abandon cheese-making entirely and make only butter.

The Silo in Connection With Our Dairy Interest.

Paper given by ANDREW BAKER, at the Institute at Dryden, N. Y.,
December 17, 1892.

Mr. President, Ladies and Gentlemen.— Before we come to our subject proper, let us briefly notice some of the advances made in the dairy, especially that part which relates to butter and its manufacture.

Formerly it took fifty-six hours after the milk was drawn from the cow before the butter was ready for the table, and six months before it reached the city consumer. Now by the time we are through milking and ready for breakfast, we may have the finished product of the morning's milk on the table ready for use, and the city consumer 300 miles away may have of the same article in the evening for his tea.

Now while ingenuity and skill have so rapidly developed the machines for its manufacture, the amount of production per cow has not advanced in proportion, for in examining the statistics we find the amount per cow to be only 125 pounds, and the net receipts below the cost of manufacture.

This ought not to be, for it is far below the intelligence of the times, and if this had kept pace with all other articles of manufacture our annual average would be 300 pounds per cow, and our receipts nearly double.

But the question arises, how can this be done? There is a combination of three great factors with which this may be done.

Professor Wing has just given you a most excellent idea of one of the factors, and we will endeavor to give the other two, which brings us more fully to the subject under consideration.

Among all the inventions of the past twenty-five years for the use of the farmer, perhaps there is not one of as much importance as the silo. It has passed its experimental stage and has become a necessity.

We did not intend at first to go into any detailed statements in regard to the manner of building, or say anything about the planting, cultivation and gathering of the crop. But we meet with men nearly every day, young and old, that have never yet seen a silo, and they are becoming interested, and want to know all about it from beginning to end, so we thought best to give a brief description.

When one contemplates building, the first question asked is, where shall it be? Shall I use valuable storage room in my barn, or build outside? If we were to advise, we would say, build outside and close to the feeding stable.

There is not one farmer in fifty who now has any barn room to spare, and taking room that is already needed, will cause the stacking of valuable hay, which in a few years will result in enough loss to build a silo. And then the increased fertility of the farm derived from the use of the silo will necessitate the building of a new barn or the enlarging of the old, so by all means build outside.

In building seek for depth more than surface space, for two reasons. First. The contents will be self-weighting and will do away with a great deal of hard work; and, second, the ensilage will be less exposed when feeding.

While clover, rye, oats and peas are used by some for ensoiling, the king of all plants — corn — is the best and most valuable, as it yields a greater number of tons to the acre than any other crop, and it is the large yield of rich, nutritious food that we want.

There are several varieties of corn in use, viz.: Pride of the North, Leaming, Mastodon, B. and W., or Southern White. We use Pride of the North, and we believe this variety best for this locality. It grows a large stalk, a broad leaf and an abundance of grain. It is early, but will withstand quite a hard frost without injury.

The methods of planting vary. If the soil is free from weeds and stones it may be planted in drills, using eight to ten quarts of seed per acre. But if the ground is stony, or full of weeds, we think best to plant the check row system, as better cultivation can be given and less hand work. As soon as the rows can be seen, so that a horse can follow them, cultivation should begin and be kept up until the plant is waist high. A small part of our corn the present season was left with only one-half as much work as the rest of the field, and there was a loss of over twenty per cent.

When the ears are nicely glazed then harvest the crop. Our method of harvesting is as follows: We cut, by hand, a small armful and lay it down; then when it is drawn to the silo it is picked up and laid on the wagon, having the tops all one way, and from the cutting machine, which makes it convenient to unload.

Machines for the purpose of cutting the corn from the hill and loading on the wagon are now made, so that two men, one to drive the team and the other to take care of the corn, can cut a load in five minutes. This machine will be a necessity with all who have a silo, as it will lessen the labor of harvesting the crop nearly, if not over, fifty per cent.

We cut the corn into the silo. We believe this, all things considered, to be the best way, especially if the silo is from fifty to 100 tons capacity. When the silo is large, holding from 300 to 500 tons, then it may be put in whole. In filling, one man works in the silo to keep the corn evenly distributed; we do not tread it any, simply keep the outside about a foot higher than the center.

Last year we covered with chaff, and then boards on that. There were about six inches of the ensilage on top burned; this was not a loss, as young stock would eat it all, even leaving good hay for it. We would not advise feeding this burned ensilage to cows giving milk, for it is not a first-class food, and they should have only the best.

This year we did not cover the silage. We wanted to see if the loss would amount to more than the expense of covering. There were four inches deep over the top of the ensilage that were decayed, and about six inches burned, and, as the decayed silage was the only loss, we did not think it sufficient to pay the expense of covering.

We do not believe farmers, as a class, want men to come before them with fine-spun theories of what they think can be done, but what they do want is plain, practical results. So we come before you to-day with a few small experiments made for our own especial benefit, and we think every farmer should experiment, and every farm should be an experiment station, for we ought to know whether we are getting pay for our labor, or are just working for the fun of it. And we think that whatever good one derives from his efforts, be it ever so small, it is his duty to let it be known for the benefit of his fellow-man.

Our first experiment was for the purpose of finding the cost of a pound of butter made by feeding timothy hay and grain.

On December 14, 1891, we selected three cows, aged 5, 7 and 8 years. Two of them were fresh October 7, 1891, the other November 3, 1891. They had all been fed the same grain ration since coming fresh that they were fed during the experiment, and since November first the same amount of hay. We continued the experiment for three days. Our quotations for food was taken from the county market reports for that time. The ration was as follows:

Twenty pounds timothy hay, at thirteen dollars per ton, .13; seven pounds ground feed, corn and oats, at twenty-eight dollars, .098; making the cost per cow per day of .228.

They gave in three days 148 3-4 pounds of milk, which made nine pounds of finished butter, salted one ounce to one pound, requiring 16.457 pounds of milk for a pound of butter, and making the cost of a pound of butter .228.

We built our silo in 1891. It was the first one built in the town. While they had been long in use in some localities, it was new to us. We had seen them where they were a perfect success; we had seen them again where it seemed to us they had been accompanied with the best of thought and judgment, and had proven a failure. And we had the success or failure of the enterprise to meet, so we did not exert ourselves to see how much we could do, for if it was a failure then our loss would not be so great, and if it was a success, we should feel just as well, and we only grew eight tons to the acre, at a cost of one dollar and a quarter per ton in the silo.

In charging for the cost of food, we have only allowed for our ensilage what it cost in the silo. We know there is a difference of opinion in regard to this, and while we admit that it has a feeding value above its cost, it is not a commodity in the markets of the world, and as there is no demand for it in the markets, there is no price, therefore its price should be just what it cost to raise, and secure the crop in the silo. So on this basis we make for it the following claims:

First. It will reduce the cost of a pound of butter thirteen cents.

Second. It will save enough to build a silo every year.

Third. It will let us sell all our timothy hay, and at the same time let us keep three times the amount of stock, and return more fertilizer to our farms than if the hay was fed.

Fourth. It, in combination with the man and cow, will lift the mortgage from the farm.

We will now prove these claims in their order.

On January 1, 1892, after feeding the ensilage for ten days, we took the same three cows that we used in our first experiment and worked them on the following ration: Eight pounds grain, two parts wheat bran, two parts ground oats, one part oil meal, old process, two pounds timothy hay, forty pounds ensilage, the whole costing .1276 per cow per day. They gave in the three days, 172 1-2 pounds of milk which made twelve pounds of finished butter. A gain in the three days of twenty-three and three fourths pounds of milk, and three pounds of butter, making a pound of butter from 14.375 pounds of milk, and making the cost of a pound of butter .0957, a saving of .1323 on a pound of butter in favor of the ensilage. We will now take the second proposition.

It will save enough to build a silo every year. Later in the season we changed our grain feed, and put cotton seed meal in the place of oil meal, using wheat bran, ground oats, and cotton-seed meal equal parts by weight, the ration as follows: Seven pounds grain, two pounds hay, forty pounds ensilage, costing

.117 per cow per day. For the month of March we milked nine cows. We find that at .117 per day per cow, that is cost to feed those nine cows for the month of March, $32.643. By referring to our butter account, we find that we made for the month 350 pounds of butter, and that the food for a pound of butter cost .093, making a pound of butter for .0027 less per pound with the nine cows than we did with the three cows. Our dairy was increased to fourteen cows in April, five coming fresh. On the last day of April we fed our last ensilage. Every one remembers how wet the month of May was; our cows did not go to pasture until the last day, as our ensilage was exhausted; we had to go back to timothy hay. The cows began at once to shrink in the flow of milk, and we increased the grain ration to nine pounds. The price of hay still kept at thirteen dollars, so that it cost .232 a day per cow, an increase of .115 per cow a day, or $49.91 increased cost for the fourteen cows for May.

Now, with the same ratio of butter with the fourteen cows for May, that we had for March with the nine, we ought to have made 544 pounds of butter, but we only made 410 pounds, a loss of 134 pounds, and this at twenty-five cents per pound would amount to thirty-three dollars and fifty cents, to this add forty-nine dollars and ninety-one cents for the increased cost of food and we have the no very small item of eighty-three dollars and forty-one cents. Not much profit there; pretty much all fun. But wait a moment; there is more fun ahead; pretty much all fun. month; multiply that by six, the number of feeding months in the year, and we have $500.46 worth of fun, and as the boys say, "Its too funny for anything."

But did you know that the majority of the dairymen of this State to-day are working for just that kind of fun? Did it ever occur to you what a wonderful revelation that little lead pencil was? Now, when you go home to-night just take it; sit down and go over the events of the year in connection with your dairy and see if it don't reveal to you that you can build a silo every year.

I think I hear some one say, you may be able to do this, but I cannot. Now, we claim that what one has done, another can do under like conditions. To illustrate, on the first day of June 1892, the Jersey cow, Signals Lilly Flag, owned by Moore and Matthews, of Huntsville, Alabama, completed a year's work with 1,047 pounds three-fourths ounces of butter, testing eighty-six per cent fat to her credit. And you ask how was it done? Why over two centuries ago some men across the ocean conceived the idea of breeding a cow that would take the food you gave her and put it in the churn, and she is the culmination of that conception. But you or I could not take one of these old general purpose cows that we have waited on so long; that gave us a calf in the spring that made a good veal; that through the bright pleasant weather of summer has given 125 pounds of butter; that has whiled away the long dreary hours of winter by economizing her way through our straw stacks; that when she die may possibly give us a few more pounds of old cow beef. We say you or I could not take her and by the best care and food ever bring her through a year's work with 1,000 pounds of butter to her credit.

But there is one factor in the work of Lilly Flag that we have not mentioned, and to which we wish to call your attention. So we go back to Huntsville; we look into the stall; we see the breed; we look into the bin; we see the feed; we look into the churn; we see the result; but through the churn, the feed, the breed, beyond and above that all, is the thought and skill of the man.

We hold to your view to-day the possibilities that may be achieved through breed and feed, but we wish to emphasize that the success of the achievement depends on the skill of the man back of it.

We will now take up the third proposition. It will let us sell all our timothy hay, and at the same time let us keep three times the amount of stock, and return more fertility to our farms than if the hay was fed.

All foods that we use have two values, the feeding value and the manurial value. It is claimed by our best authorities that we can not afford to sell our timothy hay. For from analysis made by Dr. Peter Collier, of the State Experiment Station at Geneva, N. Y., a ton of timothy hay contained five dollars and forty-eight cents worth of fertility.

Now, this is true if you feed it, providing you save it all. But if you bore holes in the stable floor to let off the liquids, and throw the solids out under the eaves of the barn for the elements to work upon and the rains to wash away, by the time you get what little there is left of it on your fields, it will not be worth that much, and you might about as well have sold the hay in the first place and saved the labor connected with it.

Now, it takes a good meadow to give us two tons of hay, but we will suppose that it will give us that much, and if we find two and one-half pounds of hay for every 100 pounds of live weight, and our cows average 800 pounds, that acre of hay will feed one cow 200 days and return ten dollars and ninety-six cents worth of fertility to our farm.

But I will show that if we do take five dollars and forty-eight cents worth of our farm with every ton of hay we sell, we can not afford to feed it.

This year we grow twelve tons of ensilage to the acre. Now, the same authority, Dr. Collier, gives the manurial value of a ton of corn ensilage at one dollar and twenty-eight cents. If we feed our cow five pounds of ensilage for every 100 pounds of live weight and they average 800 pounds, that acre of ensilage would feed three cows 200 days, the same length of time the acre of hay would one cow, and return fourteen dollars worth of fertility to our farm. An excess of three dollars and four cents over the hay.

Fourth proposition.— It in combination with the man and cow will lift the mortgage from the farm.

We suppose there are more farmers interested in this subject than any other.

Some fifteen years ago we became acquainted with a gentleman in another part of the State who, for convenience, we will call Mr. Jones. He was a farmer having a good farm adjoining a thrifty little village, where there was good markets, schools, churches and excellent society. But Mr. Jones was not happy; he had a tired anxious look on his face and a slow lagging walk.

We asked a friend what the matter was, and he replied "that he had an elephant on his back." "An elephant," we said, "in what form?" "Why his farm is mortgaged for all it is worth;" and when he mentioned mortgage, how forcibly those lines of Carleton came to us:

"Worm or beetle, drought or tempest
On a farmers' land may fall,
But for first-class ruination
Trust a mortgage 'gainst them all."

We called on Mr. Jones. It was a cold, stormy day in early December. We found that he was a dairyman, having a herd of twenty-five cows of the non-paying breed, and they were all out in the yard. But three or four were giving milk at the time, and they would be dry in a few days, and then none of them would be fresh until April and May.

We asked him why he let them run in the yard all day, and if it did not cost more to keep them than if they were in the stable.

He said he didn't know, but it did take a little more hay, but then he thought it made them more hardy.

We asked him how much butter his herd averaged, and he replied about 125 pounds, but, he added, we veal all the calves and that brings in something. We asked him if instead of waiting on all those cows from then until spring, and have them bring in nothing, if it would not pay him better to have them come fresh in the fall, and make butter through the winter, when it was a good price ? "No, I don't think it would pay; I took some to the store the other day, and all they would give me was eighteen cents in trade."

"Why," I replied, "my last week's make sold for forty cents. Did you not see by this week's C. G. that fresh butter was scarce, and prices firm ?"

"No, I don't take that paper. I don't go much on book farming; besides, I don't like to milk in the winter."

"What kind of creamery do you use ?"

"We use the small pans. I think we can make as good butter that way as any, and creameries cost so much."

"About how much does your dairy bring you in a year ?"

"Well, after I get my man paid in the fall I don't have much left, and it takes about all that for interest and taxes."

"But does not our wife have a woman to help her ?"

"No; and she takes care of all the milk of those twenty-five cows with small pans, and does her other work, too ?"

"Yes ? What work do you have in the winter ?"

"Oh, nothing but the chores."

"Do you think it pays to carry on a dairy that way ?"

"Well, I don't know. What would you do ?" And we told him. In the first place there was ten cows in that herd that we would sell immediately, and we would take part of that money and the first thing we would buy a creamery for his wife. Then when those fifteen cows came fresh in the spring we would make a quality of butter that would sell for forty cents cash instead of eighteen cents in trade. The next thing we would subscribe for an agricultural paper that had reliable market reports. Then we would buy the best Jersey bull we could find, if it took what money we had left, and with him raise a new herd of cows that would average 300 pounds of butter to sell. We would have the majority of them come fresh in the fall, and we would sell our butter as fast as we could make it, and we would build up a dairy business that paid.

About a year since we visited the place again, and as we neared the village we stepped to the platform of the car to note the changes that have taken place since last there; and where Mr. Jones lived was a new house and a large new barn, and we thought the elephant had taken possession.

In conversation with a friend that evening we inquired who lived where Mr. Jones did, and he replied that Mr. Jones still lived there. Why, said I, when I was here last it was thought that he would have to give up his farm, but I noticed as we came by his place that he had new buildings, and everything denotes prosperity.

Well, he replied, it does beat all how that man has succeeded, there is not a more prosperous farmer in this town and I can not account for it.

Our time was limited there but we make up our mind that night that we would call on Mr. Jones the next morning, which we did. We found him at the barn, and we noticed that he gave our hand an uncommon hearty shake, and that the old tired look had given place to a bright happy smile. We spoke of the change that had taken place since we were there last, and asked how it had come about, he said do you remember the last time you were here and the talk we had, and the advice you gave me? Yes. Well, I thought you a little off your base when you talked 300 pounds of butter to the cow, and forty cents a pound, and I went into the house and told Mary there had been a lunatic here to see me, and I told her all you said, and when I finished, she said, John, I believe his head is level; well, before I left the house our plans were laid and in less than a week ten of those cows were off the farm, and now come with me, and, leading the way, he opened the door of a large box stall, and there was as fine a dairy bull as I ever saw, opening another door we entered the cow stable where stood thirty of as fine working three-fourth and seven-eighth grade Jerseys as it has ever been my pleasure to see. This, he said, is the result of your advice.

Four years ago it became necessary for me to build a new barn, and hearing of a farmers' institute in another county, I thought I would go and see if I could not get some ideas from the instructors that would help me. And one of the speakers that they called "Major" gave a paper on the silo, and I was so impressed with its utility that I asked his advice, and he advised me by all means to build one, and when I built my barn I built two silos, and on these rich river flats I can grow fifteen tons of corn to the acre, and with a little wheat bran and cotton seed meal mixed with it and fed to these cows has enabled me to lift the mortgage from my farm, and to-day I don't owe a cent.

If there is a Mr. Jones here to-day let me say go thou and do likewise.

Stick to the Farm.

It was said of the 200,000 people that attended the opening of the Columbian Exposition, at Chicago, that every one was a sovereign; and that is what American citizenship makes of every man and woman — monarchs and sovereigns; and especially can these titles be applied to the farmers of these United States. I am an American all over, and I am talking to a people who, I am sure, think and feel as I do. Other nations may do great things, but give me the American people. Although the youngest, our resources are equal to any nation; and it is a conceded fact that our 64,000,000 people are among the most intelligent, cultured and prosperous of any nation on the globe. In this Columbus year, when the great mass of American citizens are, more than ever before, showing forth of what material they are made, and of what great things they are capable, when every man and woman seems to vie with each other in their efforts to make this world a great world, the farmer comes to the front, doing that which no other vocation can accomplish.

We are a plain, practical people, but we are the pivot on which the world turns. We have a heritage handed down to us from the beginning of the world, that tilling the soil should be our portion; and history tells us that Columbus, the discoverer of this great western continent, which bids fair to outstrip all other nations on the globe, was one of the toilers of his time, thus giving to us another 400 years' heritage of toil, all of which has redounded to man's happiness in every way and has proved a blessing instead of a curse.

The farmer, in one sense, monopolizes the world. He can grow every kind of grain necessary for man's existence. He can raise cattle, horses, sheep and fowls, all of which contribute to man's wants. Fruit, in abundance, can be raised on the farm; in fact, if he will, he can live on the products of the farm; and if there be a lack anywhere, there is almost always a surplus in some other direction to provide for it, making the farmer the most independent of any people in the world. I well remember, fifty years ago, when a member of my father's large family, the products of the farm supplied our every want for many years, and we were not an isolated case by any means. Of course, our wants were few compared with the wants of the average man and woman at the present time. I think it was Josh Billings who said: "It is not what man wants that makes him rich, but what he doesn't want;" and so, in the simplicity of half a century ago, we were rich because our wants were few. And yet, in a family of ten or twelve, I have often thought that in no other way could these wants have been so easily provided for as from the farm.

Let me give you a few reminiscences showing how this was done. Father had cows from which came our milk, butter and cheese, sheep from which came wool to make much of our clothing, mother doing the spinning and weaving. From both these sources also came a great part of the meat for our table. We raised our corn and rye which furnished another commodity almost always seen on our table, rye and Indian bread. Our fuel came from the farm; nearly all our sugar was made from trees growing on the farm and I seldom find nicer or whiter sugar made at the present time with all the modern conveniences than was made from the products of those trees fifty years ago, boiled in a calrdon kettle hanging on a pole over a large open fire. Much of this was stirred to nearly the fineness of our granulated sugar and was used with a great deal of relish for all our table uses, even for tea and coffee. Fowls in large numbers were always seen on our farm, which contributed largely to our table and also to our pocket book. Our fruit in those days of which we had a plenty consisted mostly of apples and the good old-fashioned currants. Flax was another article grown on the farm and it was thought to be almost as necessary to the wants of the family as bread, for it contributed largely to our bedding as well as our clothing, and here again mother did the spinning and weaving. Nearly all the thread we had to use in those times, mother spun from this same flax and I shall always remember how smooth and silky it was after coming from that wonderful distaff, which is hardly known at the present time. Occasionally, and here, the surplus supplied the lack — father would take a load of butter or cheese to Syracuse, then called the city of salt, fifty or sixty miles distant, going overland route, for we had no railroads in those days, which took the greater part of a week to accomplish. But such journeys were looked forward to by the family with a great deal of rejoicing, for on father's return we were sure to have our larder greatly replenished with numerous luxuries, such as a sack of white flour, a few pounds of white sugar, tea, coffee, raisins, etc., the latter being considered one of the greatest of luxuries and was generally eaten from the hand instead of being made into indigestible fruit cake.

It was from this source also which came our factory cloth and our calico prints, much of it costing twenty-five and thirty cents a yard. A print in those times was considered as nice, and took the place of more costly goods at the present time and children and even older ones who happened to be in possession of a nice print dress was thought to be very much dressed up.

I have given you this little family sketch because it portrays to you more clearly than I could in any other way what was accomplished in the way of farming fifty years ago. What was done then ought to be more easily accomplished at the present time with all the modern inventions that American ingenuity has given us for helps. What other vocation can be named whereby men's wants can be so fully supplied independent of all other vocations except from the farm. Then I say why not stick to the farm? In the family sketch I gave you the true faithful wife and mother shone forth as a beacon light through it all, putting the fact before us that woman's help is needed side by side with man, if you would make farming successful, and in no other place can woman's influence and helpfulness be more forcibly felt than on the farm. It has been said that no great thing was ever done in the world that woman did not in some way, either directly or indirectly, contribute to it. In Columbus' time there was one woman who dared brave the scorn of the people and give money and jewels and make other sacrifices, if necessary, to help at a time without which America might still be in its primitiveness. Although we are not told that this woman was a farmer's wife, yet Chauncey Depew said in his great speech at Chicago recently that it was a happy omen of the position women was to hold in America. And has it not been verified in thousands of instances all over these United States, especially in the last half century?

Woman has gone side by side with man as students in our schools, in the law, in the pulpit, as architects, besides in many other places, and last but not least in farming. Many of our women to-day are owning farms which they superintend, and, in many instances, doing much of the work with their own hands. Do we learn that these women are unhappy or unprosperous because of this ? Not by any means. On the other hand, some of them challenge the sterner sex to look well to their laurels, that they may not be left on the anxious seat because of being beaten in one of the greatest vocations in life, that of tilling the soil. We are living at a time and in an age when the farmer, when the toiler everywhere is looked upon as a self-respected citizen. Equal rights and common opportunities place both rich and poor, man and woman, on an equal footing in this respect. Our country is so vast, our resources so enormous, that our people seem willing to rise to any emergency to overcome difficulties. Farmers, like every other class, have difficulties to overcome. Many times his work is severe and laborious, but the world is full of professional men who devote more hours to hard labor in their professions than does the farmer, and many times will you hear them exclaim, "It is a dog's life." Taking the entire year, farmers do not work as many hours as our mechanics or those who work in shops or factories. If a leisure day is wanted by the latter or a day of sickness comes upon them, everything stops with their work, while with the farmer his crops are still growing and in most instances much of the work can be carried along by their families, thus giving less worry and more contentment of mind, which is said to be the sum of human happiness. Then let us stick to the farm. Strive to bring our farms up to the highest point of cultivation, make our surroundings pleasant, our homes attractive, which will help in a large degree to make our children contented to stay with us. I read in the Tribune not long since of some one making a suggestion that prizes be offered for the most attractive homes. I am not sure but it would be an excellent idea. An attractive home anywhere, especially on the farm, is a paying commodity every time. Our children should also be taught to take an interest in the farm. Tennyson once said that every horse on the highway nowadays pounded out by its very trot the words property, property. In the hurry and push that the work of the farm brings to us and in our eagerness to gain property and the mighty dollar we hardly stop to think that it is necessary to interest our children as well as ourselves in things pertaining to the farm. When I see fathers simply making working machines of their boys, seldom giving them a play day or any remuneration whatever, except what they eat and the clothes they wear, I am not at all surprised that such boys leave the farm as soon as they find an opportunity to do so. Children are always on the alert to learn something. Then why not talk to them intelligently about the work on the farm; tell them why you do this or that; ask their opinions about what you do if for no other reason than to get them interested. Give them a piece of ground to cultivate and plant, help them to do it if necessary and give them the proceeds from it as their own. Teach your children to do business, to keep their own accounts correctly that they may learn the value of money. Teach your girls to make a nice loaf of bread, a good cup of coffee and other culinary work that they may be helpful to mother and in so doing helpful to themselves. I have known mothers to refuse to let their children help them when they were even anxious and willing to do so giving as an excuse that it was more work to show them than to do it themselves. Mistaken idea. Better do as my own mother who had a large family of girls did, give each a certain portion of what was called housework to do one week, the next changing around so that each learned to do the whole. Children are usually very proud to be taught to do that which father and mother does especially if a little wholesome praise be given to them occasionally, thus letting them know that you appreciate what they do, at the same time it gives them encouragement. Give your children play-days as well as work-days, and whatever else you may teach them, inculcate into their minds an honest belief in the dignity of labor, that labor is ennobling and a blessing, that idleness is a curse. Another paying commodity in the homes of farmers is plenty of good books and papers. There is no other one thing which will attract your children to and make them contented to stay in their homes evenings than plenty of good books. Dr. Talmage says the newspapers of to-day are great educators, and so they are. Do not stipulate in this matter. The time is past when one paper a week will satisfy the minds of your children, and it ought not the minds of parents. Better have a paper come into your house every day. Don't make the excuse that papers and books cost so much you can't afford it unless you are sure you do not spend twice as much in some other unnecessary direction. You doubtless have read of the man whose wife sent to town for a pound of tea and ten yards of calico for a dress. As the merchant was about to cut off the cloth he says, "how much did you say that calico was a yard?" The merchant replied "five cents, the ten yards will cost you but fifty cents." "Well, I tell you it is terrible hard times just now, the woman will have to make six yards do for that dress. How much did you say your best tobacco was a pound?" "One dollar." "All right I must have a pound of that and mind you give me the best. How much did you say that tea was a pound? Twenty-five cents. I guess a half pound of tea will have to do this time. Money don't grow on bushes. I tell you it is awful hard times." Before he left the store he bethought him he would take another pound of that best tobacco as he might not come to the village again in some time. What wonderful economy! We hear a great deal said about hard times among farmers as well as other classes of people, in my observations I have come to the conclusion that there is nearly always a skeleton in the closet of such people, which, if brought to the light, would show just about the same economy practiced as in the little incident I have just given you. This great world of ours is increasing in numbers every year, I might say every day, progression is our watchword leading us to a succession of great possibilities and endeavors. There is much more for us as farmers, to learn to-day, if we would keep pace with the world than in the time of our ancestors. Our periodicals, our magazines and our libraries are within the reach of every one and are a wonderful help in giving to our children, as well as ourselves, this knowledge. William Penn said: "Let my children be husbandmen and housewives." Although we can not expect and, perhaps, would not desire that every boy and girl born and bred on the farm should always stay there, yet, by cultivating in their minds a taste for the work on the farm, showing them that it is a promoter of health and happiness, which is a greater compensation than money always. In a word, use good, plain, common sense with your children, and, I believe, more of them would be willing to stay on the farm; and those who go away would retain pleasant memories of, and cherish a longing desire within to always return to father's farm as often as possible. I believe there is no place where children can be brought up freer from the vices of the world than on the farm.

It has been demonstrated beyond doubt that boys and girls brought up on farms not only excel those raised in the cities in physical power, but also in mental and moral strength. We often hear it said of some student in our high schools who has perhaps outstripped all others in his class, that boy was brought up on a farm. Another fact in favor of the farm is that most of our great men, including the Presidents of these United States spent their boyhood in the country, working on farms. Then have the courage to stick to the farm.

Mrs. S. S. HAMMOND.

Profit in Fowls.

By F. E. DAWLEY, Secretary, New York State Poultry Society, Syracuse, N. Y

During the last few years the people of the United States have manifested much more interest in commercial poultry culture than formerly. Those who are usually characterized as fanciers, though there is no reason why they should be styled thus more than breeders of thoroughbred horses or cattle, have been patiently at work perfecting new breeds and varieties and improving old ones, not only in markings and form, but in flesh-forming and egg-producing tendencies, and it can be truly said that no greater improvement is shown in any kind of stock.

An early German writer on agriculture and natural history says that in 1500, a very prolific fowl was introduced from the shores of the Mediterranean, which had a tendency to lay two clutche of eggs, and raise two broods of chicks in one season; this wa thought wonderful.

To-day I can cite you to whole flocks of our improved fowls tha according to carefully kept records have averaged from 171 to 192 eggs per year.

Those of you who were interested in the agricultural fairs back in the fifties well remember that the "hen department" was pretty bare, and the fowls shown very crude specimens. Those of you who stayed at home will remember too what was roaming over your barnyards and wheat fields. Once in a long distance you would see a flock, perhaps of Golden or Silver Pheasants or Dominiques, and may be a flock of Shanghais, great ungainl fellows, whose necks stretched upward so that it was easy for the males to eat corn from the top of a barrel. The fowls wer on most farms allowed to shift for themselves, picking up such stray bits of food as came in their way. They were obliged to roost in trees, laid lots of eggs in summer, few in winter, and were looked upon as the greatest nuisance on the premises. Even now many farmers allow the hens to run all over the place, feed little or nothing during the summer, and corn to keep them warm in winter, wondering all the time why they do not lay.

Fowls will pay well on the farm if you will care for them and give them the little attention which they require. In the first place, you need a person to care for them, one who does not want to see dumb animals suffer, and who is willing to be tied down a little, for the fowls need to be fed regularly. Select some member of the famiy who is in sympathy with the poultry and who will take pride in seeing them thrive under his or her care. Next, you want a place to keep them in; for this, I would recommend a building separate from the regular farm buildings, placed in a sheltered, sunny spot, well drained, in a corner of the orchard, if not too far from the house. The size may vary according to the number of fowls to be accommodated and the space or funds available; but no matter how you build, you must keep certain things in view from the beginning. You want warmth, dryness, ample space and simplicity of inside arrangements, that the building may be easily cleaned and kept free from lice. In my own experience I found that the hens will lay more eggs if they are divided into pens of not more than ten or twelve, and in building would make the house sixteen feet wide and twelve feet long for each twelve hens to be housed; this allows for a four-foot alley on the north side. I have found best, in the long run, a house made with a good solid baloon frame with matched or novelty siding on the outside, with tarred paper between the boards and studs, and on the inside another thickness of tarred paper covered with matched ceiling. For the roof, I use what are known as clear butt shingles, and for the inside partitions planed hemlock boards for the first three feet from the floor and two-inch mesh-wire netting from that up to the roof. In the south side put a twelve-light window for each eight feet in length; many persons make a great mistake by putting too much glass in their poultry-houses, forgetting that it is as good a conducto of cold as of heat. Make the posts six feet high, so there will be no bumping of heads in passing about inside.

I would make the nests and roosts movable, so that in cleaning they can be taken outside of the house if wished. Provision should be made for saving all the droppings, as they are worth about one-third as much per ton as the average commercial fertilizer. One of the best methods of handling them is to make a tight shelf or scaffold under the roosts, and about twice a week sprinkle the droppings with common field plaster, which will change the nitrogen in them into sulphate of ammonia, which is the best possible form of this valuable fertilizing element. I clean these platforms about once in two weeks, packing the mixture firmly in tight barrels and storing it in a dry place until spring, when I mix it with wood ashes for use on sweet corn, garden truck and fruit. The manure as I take it from the platforms analyzes about 2.22 per cent of ammonia, 2.12 per cent phosphoric acid, and 1.11 per cent potash. The value of the manure will vary somewhat under different methods of feeding and care.

The greatest item of expense in practical poultry culture is the feed, and its cost has more to do with the profit than anything else, unless it be the care. The great reason why fowls are not more profitable as usually kept on farms is that too little attention is paid to detail.

You would not expect your dairy to pay if you fed the cows once a week and cleaned the stables once a year, nor would you expect it to pay if you fed the cows all the corn they would eat and no other food, day in and day out. Still, this is just what many, who think they take very good care of their hens, are doing. Dairymen are learning that there is an individuality in cows; some will assimilate and give profit on a much larger amount of food than others; and to get the greatest possible profit from the whole herd, these differences in capacity must be met, and each individual animal fed all the food it can use to good advantage. Of course it is not practicable to try to cater to the individual tastes of each hen, but we may approximate it by feeding a uniform flock. You know very well that a Leghorn and a Cochin will not thrive if given just the same quantity of food; yet many who know it, keep right on doing this very thing. The point is, to get each flock as nearly uniform as possible, and feed the average; in this way we can make each individual fowl pay the greatest possible amount. One must be governed by his markets. If your markets call for eggs, grow eggs; if your customers think that the white-shelled eggs are the richer, give them white shells; it is just as easy to produce them as brown. If they want brown shells, give them brown. If they want broilers, procure some of the larger, quick-maturing birds and give them broilers.

In the line of egg-production, if your trade demands white-shelled eggs you must keep Minorcas, Leghorns, Andalusians, Spanish or Hamburgs. A peculiarity of the layers of white-shelled eggs is that, although there are many different types and colors, they are all good layers, and very seldom wish to set. The larger birds are the layers of the brown-shelled eggs, and lay perhaps a few less per hen in a year than the smaller varieties; still, with good care I think they will lay fully as many in winter. This class is composed of the Plymouth Rocks, Wyandottes, Brahmas, Cochins, Langshans and Indian games, although the latter has not a very flattering reputation as a layer. As a rule, I think there is more profit in egg-production than in breeding for flesh, unless you are raising early spring broilers. With proper care and feed one can increase the number of eggs to a great extent. Hens can not lay or produce eggs unless their food contains the elements of which the egg is composed — that is, a large share of albuminous or egg-producing elements. In addition to the quantity of albumen required in the organism of the fowl, the laying hen requires an extra amount for the white of the egg, it being about twelve per cent albumen, and this must be furnished in her food. By making a chemical analysis of the different grains you will find that wheat contains a larger amount of albumen than any other grain. Therefore, it is the best grain to make the base for egg-producing food. The other important items are, particularly in winter when the fowls do not have a large field for range, to give them once a day, if possible, a food of chopped clover hay;

they need this not alone for the bulk but it is rich in nitrogen, which enters very largely into the formation of the egg. They also need meat at least three times a week. I like the green or raw bone and meat cut together far better than the dry ground bone or dessicated meat.

The value of all foods depends upon its digestibility. The green bone, containing its natural juices, is digestible, especially by birds, but the dry bone having lost its solvent agent, has become harder, its particles become rearranged and it is only slowly digestible. Bear in mind that it is not the amount of food eaten that gives the best results, but the amount digested. Nothing will make a chick grow as rapidly as will green bone — in fact, the growth seems marvelous. There are several bone cutters now in the market and they are all that is claimed for them. I wish to impress upon all who keep poultry the necessity and importance of utilizing waste materials. Eggs are always cash in the market, and especially in winter. Bones are more plentiful in winter than are some other valuable materials. The bone cutters are labor saving and permit the use of valuable bone, so they pay back their cost in short time.

The cheapness of bone is another factor to be considered — many butchers give them away, or will sell them for a small sum. But the bone cutter renders them valuable and converts them into the most desirable of all foods. With bone and cut clover but very little other food will be required, and hence there is not only a gain in nutritious matter but a saving of grain also and a consequent saving in the expense of keeping.

Green food should be furnished each day and the grain ration should be varied somewhat. Chickens are like the human family in that they like a change of food. If your fowls have been fed on one kind of grain for some time, and do not have the appetite that you think they should have, give them a little cooked food, such as cake made from coarse corn meal and meat scraps together, or some other grain than what you have been feeding them, and you will see that they will eat it ravenously. While wheat is one of the best foods for producing eggs it is one of little value for fattening purposes compared to corn, as corn contains a great deal of carbonaceous or fatty matter, which puts on flesh in a very short time.

Pure water is very essential to laying fowls. You will probably think I am exaggerating when I tell you that there is nearly as much water in a pound of eggs as in a pint of milk. Let us look at the chemical make-up of a hen's egg. Here we find about 1,000 grains of matter, sixty-seven per cent of which is water, ten per cent or 100 grains lime (where are you going to get that when you feed corn only, brother farmers), twelve per cent albumen, nine per cent fat (three times as much as the law calls for in milk in this State, you see) and one per cent ash. There is also a small quantity of sulphur, phosphorus, magnesia and several other bases which are found in various combinations. You can not make something from nothing, neither can the hen; she can not elaborate an egg out of starchy grain and patent egg food, nor can she put a shell on it unless she has given her the lime to make it from. The progressive breeders of poultry long ago found this out, and are feeding such foods as contain not only carbohydrates — or starch, sugar and fat, but also the albuminous foods, such as meat, bone, clover hay, linseed meal and wheat bran.

No given rule can be laid down as to the quantity to feed; you must judge for yourself by experiment on your own flock. I can not tell how well they are housed and protected. If they roost out in trees, you should feed them plenty of corn to keep them warm, and give up expecting eggs until the warm spring days come; but if you have housed them properly and feed them right remembering that neither fat hens nor cold hens will lay many eggs, you will be rewarded. Now I want to impress upon you one thing: An egg contains sixty-seven per cent of water; how many of you are compelling your hens to melt snow to get it? Besides this sixty-seven per cent in the egg, the hen requires almost as much more to complete her bodily economy or about 1,200 grains per day in all if laying. How many of you give it to yours?

In the matter of marketing eggs there is much to be said, and many slight reforms that should be inaugurated, perhaps the chief of these is the substitution of the pound for the dozen, but that will come of a necessity later, and we can only hurry it along, but there are little reforms that many of us need to make in our own methods of marketing. We should send only clean, fresh eggs to market, and guarantee them to be all right in every respect; sell every dozen just as you would if your name was stamped on each egg, there are families in every city or town who are anxious to find eggs that they can cook with the shells on, and not feel as if there was something dreadful about to happen when they are ready to remove the shell, and these people are ready to pay good prices too. I know of instances where as much as ten cents per dozen above the market price is paid for such stock. A nice way to put up such eggs is in the little paper boxes holding one or two dozen each; you can put a label on each box telling just what the goods are and warranting them.

The trade in thoroughbred fowls has assumed immense proportions in the past few years, and during the season for selling eggs for hatching, thousands of sittings are sent hither and yon over the country by express. Some people still have strange ideas about handling eggs that are to be hatched, and may still cling to the old fallacy that they can not be sent any great distance. It is a fact that eggs properly packed can be sent almost any reasonable distance, and still get a fair hatch. I know of their having been sent from New York State to Vancouvers Island, and thirteen chicks were hatched from the sitting, although the eggs were on the road ten days, and the weather was quite warm. Last season I thought I would try the experiment of importing some eggs, and accordingly ordered two sittings from Hamburg, Germany, and three from England, The German eggs were thirty-six days old when I received them, and the English thirty. From the former I got no chicks, although about one-half the eggs seemed fertile; from the other lot six chicks were hatched, two died before the wing feathers were well out, and the other four reached maturity. Two are strong and healthy, but the others have been weakly all the time.

In sending out eggs for hatching I have had the best results when I packed each egg separately, in dry bran, in a pasteboard box, partitioned so as to hold a sitting. This box, when filled, is packed with chaff in a strong basket, the top being wired and sealed, and marked plainly: "Eggs for hatching. Handle with care." In cold weather I wrap the box with paper, and wrap each egg with wool before packing, and add to the label, "Please do not allow this package to chill." There is plenty of money in the poultry business if you will attend to it closely, and not expect large returns before you have learned the business.

Don't feed your hens corn, red pepper and snow, and feel discouraged with poultry because they don't lay. Turn over a new leaf. Give the hens fair play. They do not ask for any credit; they pay as they go; and to those who like fowls there is open a profitable branch of agriculture. Do not go into it too heavily, but start in with the fowls you now have on the farm, and keep an account with them; ten to one they are paying now, and will pay better the coming year. When you have learned to make what you now have pay, keep more pullets over the winter, and let the business grow in this manner. If you find that they are not paying, reduce the flock and study to see where the trouble is. Many who keep 100 fowls can not make them pay as much per head as they could if they kept only fifty. Don't put too many in too small a place, feed properly, water often, house warmly, cater to your local markets, and your poultry will certainly be profitable.

Apple Census of the Town of Red Hook, Dutchess County, N. Y.

Introduction.

That New York State has pre-eminent advantages in the line of horticultural work has long been known; but the development of the work, while it has been rapid, has not been as careful and systematic as its superior advantages would warrant.

While passing through the town of Red Hook, in September, of 1892, my observation was attracted to the most phenomenal yield of apples upon the orchards, both young and old, ever before witnessed in any section of our State; and the collection of a few facts in relation thereto was deemed to be of interest and value, not alone to fruit-growers, but to land owners generally throughout the State.

The town of Red Hook lies in Dutchess county, in the beautiful valley of the Hudson, where, for more than 200 years, a highly prosperous people have lived upon its rich and productive soil in what might properly be called one of the garden spots of the earth.

The soil varies somewhat in character, being a lime-stone, with gravel loam, over most of the town, and clay loam along the river bank. With nearness to the New York market, and excellent shipping facilities over the New York Central and Hudson River railroad, and Hudson boats, fruits can be placed upon markets in the best condition, and there has been a steady increase in the planting of apple orchards.

The acreage reported does not by any means include the entire town, for there are large estates owned by wealthy citizens, in the western part of the town, where orchards are not planted; hence, nearly one-third of the area of the town has no orchards for market in it.

The orchards, to a large extent, are newly planted, many just coming into bearing, and, with the exception of a few, are not under a high state of cultivation.

Profitable fruit-culture must now be conducted on the line of a specialty. The soil must be prepared in the most thorough manner; high culture must be given trees until they are well established in bearing; the fruit and foliage of trees must be treated at the right time, with fungicides, to destroy the mildews, that make so much of the fruit scabby and worthless, while insecticides must be applied to save both fruit and foliage from the injuries of hordes of insects which, if unchecked, often cause fifty per cent, and much more in some seasons, of fruit to have little or no market value.

The leading varieties of apples grown in Red Hook are the King Belurin, R. I. Greening, Nonesuch, Roe Russett, and Newtown Pippin, which are bought largely by dealers, barreled in the orchards and shipped to European markets, though some of the largest growers put up and ship their own fruit to these and other markets.

There would be a great advantage, in closer grading of fruit Selected fruit, that is, strictly such, and so marked, will, when the reputation of the mark is established, command a price considerably above market quotations, while strictly No. 1 fruit will always find ready sales over that which contains the poor grab marked in along with the good.

The excellent flavor and fine color, which is indicative of high quality, is a characteristic of the Hudson river fruit, and is recognized in our home and foreign markets and this gives a special value in fruit culture to this section which could profitably be more largely extended.

It will be observed that, while prices that were received for apples were not high and many of the orchards are young and not in full bearing, there is a very satisfactory income per acre, and this without special care being given the orchards.

An unusually heavy wind storm passed over eastern New York in September which accounts for the large number of windfall apples reported. In some localities nearly all of the fruit was blown off of the trees.

There are but few who have as yet begun to spray their orchards and while the fruit was remarkably fair the past season, which was exceptional, there will be a largely increased value in the apple crop when spraying is generally adopted and a larger proportion of fair fruit will be obtained in most seasons. The Newtown Pippin shows wonderful productiveness in this town, and were the soil highly fertilized, the trees more thoroughly pruned, carefully sprayed and cultivated, Red Hook would rival the famous Albemarle region of Virginia for this finest of all apples either for home use or foreign shipment.

There is every natural condition existing for the development of a very extensive and profitable business in fruit culture on this Dutchess county soil, if the necessary care is bestowed upon it and a perusal of the tabulated statements following will furnish abundant evidence that it is not necessary to leave these farms, and seek land at the west to find value in the soil.

Mr. Frances Elting, of Upper Red Hook, rendered valuable assistance in obtaining information that is arranged in the tables that follow.

GEO. T. POWELL,
Director of Farmers' Institute.

APPLE CENSUS OF THE TOWN OF RED HOOK, DUTCHESS COUNTY, N. Y.

NAME.	Address.	Orchard, number acres.	Number trees.	Barrels of apples, number.	Value.	Windfalls, number barrels.	Value.	Was orchard sprayed?
E. L. Traver	Red Hook	12	600	1,500	$1,000	80	$20 00	No.
E. L. Traver	do	3	50	50	60	......	....	do
E. L. Traver	do	½	10	25	25	......	....	do
Theodore Cookingham	do	10	200	500	750	120	30 00	do
F. & H. S. Elting	do	15	500	1,200	1,500	140	35 00	Yes.
Elmer Boice	do	10	400	1,400	3,200	160	40 00	do
Lewis Platt	do	3	80	400	500	60	15 00	No.
W. S. Beckwith	do	6	150	328	400	160	40 00	do
W. H. Teator	do	10	400	1,418	1,940	380	95 00	do
S. W. Germond	do	4	125	25	40	120	30 00	do
J. Williams	do	4	100	250	300	80	20 00	do
C. Copemail	do	9	140	500	625	120	30 00	do
E. Vosburg	do	12	160	1,050	1,300	400	100 00	do
F. Kilmer	do	3	75	450	300	40	10 00	do
C. Allendorf	do	2	50	170	135	80	20 00	do
W. N. Coon	do	2	60	400	400	40	10 00	do
C. Teator	do	2	40	150	175	60	....	do
John Boice	do	4	140	530	700	60	15 00	do
C. Ham	do	3	100	200	200	40	10 00	do
W. McCarthy	do	1	60	50	60	......	....	do
M. Tompkins	do	15	700	1,500	850	......	....	do
Edgar Vosburg	do	8	300	734	800	80	20 00	do
H. Best	do	10	200	800	500	120	30 00	do
T. Timpson	do	3	90	218	250	40	10 00	do

APPLE CENSUS, ETC., DUTCHESS COUNTY, N. Y.—(*Continued*).

NAME.	Address.	Orchard, number acres.	Number trees.	Barrels of apples, number.	Value.	Windfalls, number barrels.	Value.	Was orchard sprayed?
J. Thompson	Red Hook	3	75	650	$837	80	$20 00	Yes.
C. R. Plass	do	6	227	108	160	80	20 00	No.
Gustavus Cholwell	do	4	50	14	20	100	25 00	do
Eugene Traver	do	5	40	200	350	40	10 00	do
Lorenzo Ten Broeck	do	8	75	110	125	100	25 00	do
David Cole	do	5	70	200	125	40	10 00	do
L. M. Shook	do	1	30	175	225	60	15 00	do
E. L. Proper	do	3	100	150	150	100	25 00	do
B. Grey	do	1	30	124	200	45	12 00	do
John J. Feller	do	2	50	75	115	20	5 00	do
Henry Conbecker	do	3	100	225	225	60	15 00	do
Adam Metzger	do	4	150	350	350	40	10 00	do
Julius Moul	do	4	150	96	110	20	5 00	do
H. J. Curtis	do	11	60	56	60	....	....	do
Sheridan Shook	do	12	600	2,000	1,500	80	20 00	do
Shook & Fraleigh	do	1	30	100	125	20	5 00	do
Andrew Teal	do	6	150	500	350	100	25 00	do
M. Benton	do	4	30	200	200	40	10 00	do
John Pitcher	do	1	25	100	125	20	5 00	do
Norman Decker	do	2	100	225	175	20	5 00	do
Geo. W. Packman	do	1	12	16	16	......	....	do
David Funk	do	3	75	125	150	60	15 00	do
Robt. Livingston	do	6	100	150	225	80	20 00	do
L. L. Hunt	do	3	45	85	200	......	....	do

P. Quinn	do	....	3	100	275	275	60	15 00	do
H. M. Shaffer	do	....	12	200	680	700	400	100 00	do
L. & M. Shaffer	do	....	4	125	279	237	120	30 00	do
Robt. Lown	do	....	10	300	700	1,400	120	30 00	do
S. Proper	do	....	1	9	30	31	20	5 00	do
David Heinor	do	....	6	100	200	200	48	12 00	do
J. M. Aspinwall	do	....	7	75	616	1,800	240	60 00	do
W. E. Coon	do	....	4	60	280	280	40	10 00	do
John Losee	do	....	1	40	250	150	120	30 00	do
De Witt Clinton	do	....	1	30	300	375	60	14 00	do
Edward Funk	do	....	1	50	150	300	40	10 00	do
S. Martin	do	....	5	120	650	650	95	23 00	Yes.
H. Proseus	do	....	......	3	8	10	......	......	No.
C. R. Near	do	....	......	4	15	15	......	......	do
Phillip Fraleigh	do	....	......	6	24	24	......	......	do
Berkman Hoffman	do	....	2	40	200	180	25	6 00	do
Andrew Sidney	do	....	......	10	25	25	......	......	do
Clarence Shook	do	....	2	75	350	150	40	10 00	do
John H. Coon	do	....	8	200	500	700	100	25 00	do
C. H. Hutchings	do	....	1	25	80	65	20	5 00	do
John F. Feller	do	....	10	200	200	300	25	6 00	do
P. H. Stickle	do	....	8	150	220	225	120	30 00	do
N. S. Hoffman	do	....	4	50	120	120	......	......	do
P. F. Potts	do	....	10	150	850	900	240	60 00	do
T. H. Nelson	do	....	6	100	400	350	200	50 00	do
J. N. Lewis	do	....	28	900	2,400	2,400	800	200 00	Yes.
Wm. Moore	do	....	1	30	175	150	......	......	No.
J. N. Decker	do	....	4	100	300	175	40	10 00	do
F. Teator	do	....	4	50	200	300	......	......	do
C. J. Cornelius	do	....	6	200	600	600	80	20 00	do
Geo. E. Hapeman	do	....	1	20	45	45	......	......	do

APPLE CENSUS, ETC., DUTCHESS COUNTY, N. Y. — (*Continued*).

NAME.	Address.	Orchard, number acres.	Number trees.	Barrels of apples, number.	Value.	Windfalls, number barrels.	Value.	Was orchard sprayed?
Geo. Sityer	Red Hook	6	100	500	$800	60	$15 00	No.
A. D. Shook	do	1	20	40	50	......	......	do
E. Rynder	do	2	50	150	150	......	......	do
Richard Fraleigh	do	3	75	300	435	200	50 00	do
C. A. Traver	do	2	50	226	260	80	20 00	do
Irving, Fraleigh & Co	do	3	100	215	270	45	12 00	do
E. H. Doty	do	2	30	60	100	80	20 00	do
......	......	3	75	130	100	80	20 00	do
D. W. Pells	do	4	30	90	100	......	......	do
David Vosburg	do	4	50	250	300	100	25 00	do
Garret Moore	do	4	100	250	175	100	25 00	do
Peter Cotting	do	6	125	311	431	80	20 00	do
Peter H. Fraleigh	do	25	900	2,000	2,000	160	40 00	do
John A. Fraleigh	do	15	450	800	1,200	800	200 00	do
Theodore Phillip	do	8	200	450	500	40	10 00	do
S. Becker	do	2	45	150	200	60	15 00	do
George Lantz	do	6	180	500	600	100	25 00	do
John D. Teal	do	10	150	510	850	100	25 00	do
Robert Norton	do	2	120	215	250	40	10 00	do
M. Denue	do	2	40	100	150	30	8 00	do
James Baxter	do	6	300	600	1,600	40	10 00	do
G. & C. Thompson	do	15	100	300	500	160	40 00	do
A. H. Coon	do	6	200	300	600	155	38 00	do
Chandler estate	do	5	60	60	75	40	10 00	do

Robert Kerley	do	....	5	100	800	1,240	160	40 00	do
Nicholas Gardner	do	....	1	20	40	100	40	10 00	do
Gertrude Snyder	do	....	3	80	300	200	80	20 00	do
Peter Troy	do	....	2	40	100	150	10	5 00	do
Wm. S. Teator	do	....	10	400	1,319	1,618	300	75 00	do
John Clum	do	....	6	150	450	500	100	25 00	do
I. Teator	do	....	2	40	75	100	40	10 00	do
I. Donaldson	do	....	3	60	160	200	40	10 00	do
Frank Delno	do	....	2	50	100	150	40	10 00	do
P. S. Tyler	do	....	1	40	80	150	40	10 00	do
J. Maloy	do	....	1	20	40	80	20	5 00	do
J. Snyder	do	....	2	60	200	300	40	20 00	do
F. A. Martin	do	....	3	75	200	400	40	20 00	do
T. Smith	do	....	1	40	100	200	20	5 00	do
Silas Salpaugh	do	....	8	150	450	625	140	35 00	do
Daniel Hedges	do	....	2	70	150	165	40	10 00	do
Wm. Sherman	do	....	2	50	175	175	20	5 00	do
Jerome Lyck	do	....	2	25	216	100	30	8 00	do
Jerome Lyck	do	....	......	30	145	120	......	....	do
H. E. Sangendorph	do	....	2	40	130	180	......	....	do
Geo. Unzorzut	do	....	1	8	50	50	......	....	do
Chas. Simmons	do	....	2	40	100	100	......	....	do
Joseph Moore	do	....	2	50	125	250	20	5 00	do
Clarence W. Lasher	do	....	1	25	75	87	......	....	do
Geo. Feroe	do	....	6	200	500	750	120	30 00	do
I. H. Hagar	do	....	1	30	92	125	16	4 00	do
Mrs. Tanner	do	....	2	30	72	75	20	5 00	do
Henry Feroe	do	....	2	40	175	175	40	10 00	do
Clarence Moore	do	...	1	10	25	40	40	10 00	do
Augustus Moore	do	....	2	50	250	310	60	15 00	do
John Redder	do	....	4	90	300	300	......	....	do

APPLE CENSUS, DUTCHESS COUNTY, N. Y.—(*Concluded*).

Name.	Address.	Orchard, number acres.	Number trees.	Barrels of apples, number.	Value.	Windfalls, number barrels.	Value.	Was orchard sprayed?
John Mulhollen	Red Hook	1	20	75	$80	......	....	No.
I. Moore	do	6	200	650	500	60	$15 00	do
Peter Rivenburg	do	2	70	100	125	20	5 00	do
John L. Teats	do	5	100	800	1,000	160	40 00	do
Henry Moore	do	3	100	300	375	20	5 00	do
Robert Wellington	do	......	20	75	75	20	5 00	do
James E. Moore	do	2	40	130	215	40	10 00	do
Wm. H. Lasher	do	2	50	250	200	20	5 00	do
Jonas Coon	do	2	50	200	200	40	10 00	do
P. S. Cole	do	2	40	75	100	......	....	do
Robert H. Coon	do	6	200	544	816	40	10 00	do
Mrs. Robert Saulpaugh	do	5	200	600	600	80	20 00	do
Henry Feller	do	3	150	300	350	40	10 00	do
John Myers	do	3	100	300	510	60	15 00	do
John Potts	do	2	75	160	160	40	10 00	do
O. P. Doyle	do	2	40	60	75	40	10 00	do
Robert Teator	do	2	50	100	150	80	20 00	do
Douglass Teats	do	3	150	250	250	100	25 00	do
John W. Becker	do	3	100	160	150	60	15 00	do
Robert Husapple	do	1	30	70	70	20	5 00	do
John W. Near	do	......	12	17	25	.....	......	do
F. Clark	do	......	14	18	20	......	......	do
Edward Teator	do	2	40	300	470	110	27 50	do
I. D. Kerley	do	3	50	300	450	60	15 00	do
Irving Coon	do	6	140	700	1,050	160	40 00	do
Philip Fraleigh	do	6	120	500	500	200	50 00	do

Jacob Clum	do	....	5	100	800	800	160	40 00	do
Rodman Wright	do	....	2	50	127	127	40	10 00	do
John Cowsh	do	....	3	50	500	685	80	20 00	do
Joel Prentice	do	....	1	12	30	40	......	......	do
Leonard Hoffman	do	....	2	40	150	175	40	10 00	do
John Salpaugh	do	....	10	200	750	850	80	20 00	do
Horatio Plank	do	....	8	150	400	530	80	20 00	do
Leo Minckler	do	....	6	130	400	400	80	20 00	do
Richard E. Freleigh	do	....	4	160	226	260	40	10 00	do
Charles Sturges	do	....	10	200	800	1,000	120	30 00	do
Edward Potts	do	....	4	80	400	500	80	20 00	do
Andrew Sturges	do	....	2	40	150	200	40	10 00	do
Fred Sturges	do	....	4	80	400	600	80	20 00	do
Clinton Rockfeller	do	....	4	90	400	500	40	10 00	do
Mrs. Scott	do	....	3	70	150	150	40	10 00	do
Daniel Minkler	do	....	3	60	150	150	20	5 00	do
Fred Lasher	do	....	2	40	60	75	20	5 00	do
I. S. Clark	do	....	2	40	175	300	60	15 00	do
James Outwater	do	....	6	100	600	700	120	30 00	do
A. W. Fernilenger	do	....	2	28	70	70	20	5 00	do
D. A. Ross	do	....	4	91	250	250	40	10 00	do
T. Shaffer	do	....	4	100	200	400	80	20 00	do
H. C. Gale	do	....	10	200	800	1,200	240	60 00	do
Jacob Moore	do	....	3	50	150	160	40	10 00	do
Fred Cotting	do	....	4	75	500	700	80	20 00	do
John Baine	do	....	2	30	160	200	40	10 00	do
Losee Feller	do	....	1	20	75	100	20	5 00	do
John Brady	do	....	6	100	500	700	80	20 00	do
Geo. Scism	do	....	2	40	300	500	40	10 00	do
Grand total	......	......	815½	20,876	63,012	$76,819	14,017	$3,525 50	....

Importance of Teaching Natural Sciences as Applied to Agriculture in Our Public and Common Schools.

Address by GEO. T. POWELL, Director, before Farmers' Institute, held at Sinclairville.

The prosperity of nations depends upon a prosperous agriculture, the wealth of nations is largely built upon the productions of the soil, which furnish the vast material that enters into trade and commerce. Millions of people are directly engaged in agriculture, while all of humanity is entirely dependent upon its products for existence.

An interest so vast and important as this, effecting human life and every interest connected with it, should be more carefully fostered, protected and encouraged.

When our soil was new and fertile and the demands of population nowhere equal to the producing ability, not very great skill or knowledge were required in its cultivation, but after three centuries, to feed a rapidly growing population on our own soil besides millions in other nations, with its various products, the question of continued profitable culture is one that now confronts us. During these ages of production our soil has been steadily giving up plant food, and while there is yet an abundance in reserve for future generations, more knowledge and skill will hereafter be required to obtain it with a profit upon the labor that is expended in this direction and while, heretofore, great numbers of people have been able to secure their own support and accumulate wealth from the cultivation of the soil, with not much education, to-day the best results can only be obtained by applying a knowledge of principles that relate to the composition of soils, of plants, their constituent elements and how these elements of plant food can be obtained even more freely and the loss in the soil of the same most economically restored or supplied.

When men choose a special line of work in which to achieve success, they prepare themselves thoroughly for it. Medical and law schools and colleges are established where men spend years in preparation for professional work. Yet, agriculture, which is the foundation upon which all prosperity and wealth rests, and the decline of which if long continued, would mean the decline and decay of all other interests, has been the last to receive the recognition due to it in the educational systems of all nations.

While there has been much progress made in improved agricultural machinery with which to do more and better work in the preparation of and cultivation of the soil and harvesting of crops, much of this has been done at the expense of the soil, and as a result profits in farming have been pretty heavily reduced, until many have become discouraged and the tendency has been marked in all nations where agriculture has been a leading interest for the rural population to leave the country and concentrate in the town or city.

In England the rural population was thirty-seven per cent in 1861, which decreased to twenty-eight per cent in 1891. Rural population decreased in Scotland in ten years ending with 1891, 297,530. Sweden shows a decline of nine per cent from 1850 to 1885. In Germany, rural population was decreased in five years ending with 1885 by 150,000 persons, while there was an increase in towns of 1,500,000 in the same time.

This same decline is marked in France, while in our own country the same tendency is noticeable. Our rural population represented ninety-six per cent in 1790, eighty-seven per cent in 1850, and seventy per cent in 1890.

This discontent and unrest with our rural population, with its tendency to leave rural life and concentrate in large cities, is raising some serious questions in political economy, and in the administration of government.

The standing armies of Europe, which are such a heavy burden upon the industry of nations, are not maintained so much for conquest or protection from invasion as from internal unrest and discontent, which are a constant menace to life and property, from large and overpopulous cities, caused by the shifting of population and massing in great centers.

In our boasted land of freedom we are rapidly approaching these same conditions. We are building up rapidly large cities, population is being too unevenly distributed, large territories being depopulated, while great and congested centers are growing, and the question of free and peaceful government is becoming more and more difficult.

We are having these conditions that have disturbed the peace of Europe forced upon us in our own country. During the past summer military forces rather than the courts have been called upon to protect life and property, as in the recent trouble at Homestead.

In our State, at Buffalo, the State militia may be called out to protect life and property from mob violence, and when we have to maintain standing armies, to prevent the great laboring masses in large centers from rising and defying peaceful government, then we shall realize the burdens of taxation as we have not known them before.

One of the best solutions of this tendency in our own country is to foster our agriculture, making it more attractive and profitable and thus keep population more evenly distributed.

One of the best ways to accomplish this end is to begin with our system of education, and build up our common schools whic have suffered, and in many instances have seriously declined from loss of population.

It is not strange, so many are inclined to leave the farm, when there is nothing taught in our rural schools to give the boys and girls who come to them from farm-houses any intelligent idea of the occupation they are to attempt to follow.

They are kept for years in the narrow line of a few commo English branches of study, are not taught anything of the laws and of things with which they are to deal, and after a few years in school are sent out on the farm, without any preparation for the work; and then are expected to keep their end up successfully against the sharp competition of the world, and many failing to do so, become discouraged and go to the town to try to do something more satisfactory.

The natural sciences should be taught more than they are in our common schools and especially as applied to agriculture.

A large number of our district schools are made up of children who come from farms, and they should be taught something of the things they come in contact with in their daily lives, the plants, the animals, etc.

Some one may ask the question, is this not education in the interest of a class? By no means, for all classes would be equally benefited by this line of instruction.

Those who live in villages and cities, in fact all consumers of food products are entirely dependent upon the producers of the same, and the greater the intelligence and skill of producers to grow abundant crops and at the lowest cost to consumers, the greater advantage derived by consumers.

These principles of natural science should be taught only in their simplest forms. I would not have teachers attempt to teach botany as a science, but I would have them take up the plants that children come in contact with and give instruction in its habits of growth and history, taking a bean, kernel of corn, wheat, a potato, the various kinds of grasses, the weeds, giving a brief history of each, and then giving the chemistry of them, showing their constituent elements, their uses, and value as food for stock, and for human consumption, as corn furnishing carbon, heat and fat to the body, while wheat and oats furnish more of the material for making muscle and bone, known as proteine.

As physiology is required to be taught by law, that some knowledge of the human body may be obtained, its needs and care, so animal physiology should be taught, that those who are handling the domestic animals and their products may also know of their structure, and how most intelligently to feed and care for them in order to secure the best results in their management.

Horticulture should be one of the things taught; how to propagate and grow plants and trees, that a greater abundance of fruits may be produced for the health and enjoyment of all.

The life, habits and history of some kinds of insects should be taught, that those that are injurious to vegetation may be checked or controlled, that great devastation and losses may be prevented.

Were these studies introduced more in our public schools there would spring up a new life and interest in them, and many who are now anxious to leave the farm would remain on it, and, having learned valuable lessons in relation to the wonderful things about a farm, would see new opportunity to work with the laws of nature profitably and with a new interest.

This work needs teachers with higher qualifications, but if our normal schools would arrange their scientific instruction somewhat in this direction, we would soon have teachers who could, at least, give instruction in these elementary principles in simple lessons.

This need be no experimental work, for it has been done and is being successfully accomplished in other countries.

Germany has introduced in her schools this instruction with very gratifying results. Prussia has also established instruction in agriculture in elementary schools, the fruits of which will soon be felt. France has, perhaps, gone further than any country in this direction. Agricultural instruction was made optional in France in 1850, but, in 1879, every normal college was obliged to provide agricultural instruction for teachers in training; and in all primary schools agriculture was made compulsory in the course of instruction.

Many of these schools, as also in Germany, have gardens attached to their grounds, seeds of the garden and farm are planted and cultivated, their growth and habits carefully studied, collections of agricultural machinery are made, their mechanism and use studied, instruction in agriculture and horticulture in many branches given, in elementary, middle and higher schools, with the result that France will in the future show the highest development in this direction as the result of educating her youth to take up this work with more skill and intelligence and reap the greater profits that always come from employment of skill.

Nothing could be done that would awaken greater interest and put new life in our common schools, that have been the great power for good, and intelligent citizenship in our country, but which in many sections have been in a serious decline, to that extent that several school districts are consolidated in one, in order to maintain a school in some instances, where they were large and flourishing forty years ago.

This plan of education calls for better facilities, better school grounds, not the poorest and most useless piece of land in the district; better teachers, or rather teachers who have received instruction in this line of work.

Our school system is one of the best; it never was better equipped than at the present time, and yet there is a vast amount of money expended for which little value is received. Farmers are groaning under the burden of taxation, and yet the heaviest taxes they pay are their school taxes. They have to keep up school-houses, pay teachers in their own districts, yet send their children to the town, which is already overcrowded, pay extra tuition and thus pay double taxation for the education of their children.

By expending only a little more money and putting into our rural schools, especially, instruction in those things that make up so largely the life of those who attend and support them, a new interest would be awakened in them.

When taught something of the plants that surround any home, of the insects that live upon them and so largely reduce the profits in raising farm crops, a new interest would be awakened in the children, they would begin to observe more closely, pushing their studies beyond the school-room, and would become more deeply attached to their school work and the home they find so much of interest in and about.

The school would again become the center of interest to the community, the place of meeting, for debate, for the dissemination of information and interest and value to the entire community, for where there is material prosperity, there is a greater interest in everything that pertains to the welfare of society.

We need not wait for legislation on this question, teachers can take up this work now, though not having secured especial instruction there need be no change of program in school work, the common English branches must be taught, but teachers who should always be students can readily study upon a few subjects, and taking only one subject at a time, can once or twice lay aside the regular work for an hour taking the period for incidental work, and give the entire school an illustration of some subject of interest.

For example, take a garden seed, the bean, taken from a collection of seeds in a case provided for the school, give a little history of the seed, call for information from the pupils, what it does when planted in the soil, its habits of germination and growth, being particularly interesting, use the blackboard to sketch and illustrate the subject, and when the hour is ended the change from the regular routine of work will have been restful to both teacher and pupils, new and useful information will have been obtained, and as other topics are taken up each hour of this exercise will grow in interest while a new life will have been imparted to the entire work of the school.

Trustees can do much to assist in making this work practical and effective, and aid teachers greatly for it appeals at once to their highest interests.

At many of the farmers' institutes the present winters, by invitation, school boards, with the children of the public schools and their teachers, have attended one session where I have presented this subject, using the blackboard to illustrate a few things, in how to give natural science lessons, and in no instance has there been a failure to interest even the youngest children in the subject.

As soon as there is a demand for this agricultural instruction, which is not an impractical fad, our school authorities will not be slow to provide in the training of teachers, instruction in this direction, for but slight changes in the scientific work in our normal schools would be required.

I fully believe there will be a great awakening and development of the agricutural interests of our State, which is truly the Empire State of the nation, in agriculture, horticulture, manufacturing, educational and other great interests, but it will be on educational lines. The information, which farmers from every section of our

State come to obtain in these farmers' institutes, will be taught their children, or should be in our public schools, and when that is done, we shall see more intelligence employed on the farm, greater prosperity, attending the cultivation of the soil, assured prosperity of every interest dependent on a prosperous agriculture, greater contentment with owners of land, population more evenly distributed, and the question of free government settled, rather then menaced and threatened by congested and overpopulated cities.

Floral Culture.

A Paper read at the Farmers' Institute, held at Walden, Orange Co., N. Y., on March 9 and 10, 1893, by FRANK CHARLTON, of Monroe, Orange Co., N. Y.

Mr. Chairman, Ladies and Gentlemen.—I can barely touch on a few flowers and plants on this occasion, and I propose to confine my remarks on the rose, its history, antiquity and beauty above all other flowers.

While my experience of its culture has been confined to less than a decade, my love runs back to my childhood days.

I may say that I have fairly well succeeded in growing some good flowers for the New York market; the most critical of all flower lovers in this country. As an evidence of this statement I have taken the first premium at the two last Orange county fairs.

I presume few have any conception of the magnitude of the business I am called to speak upon this interesting occasion. For instance, here are some of the figures taken from the late census. The actual number of florists engaged in the business is 4,569. The glass area of said people in feet, 38,823,247 or nearly 1,000 acres.

Value in round numbers	$40,000,000
The men employed	17,000
The women employed	2,000
Wages paid out for the year	8,483,657
Value of plants sold	12,310,477
Value of cut flowers	14,175,328
Or a total value of	$26,535,805

There is an average of 65,000 cut roses sold in the city of New York daily. At the modest sum of five cents each the amount would foot up $3,225.

On the cultivation of the rose, the price to be paid is eternal vigilance inspired by eternal love.

He who would have beautiful roses in his garden must have beautiful roses in his heart. He must love them well and always.

A genuine lover of the beautiful in flowers will not be discouraged if the difficulties that attend the culture of his favorites, the rather he is incited to succeed in spite of obstacles and drawbacks. Knowing that a "faint heart never won a fair lady," he can not expect the smiles of Maria Bauman or Maria Van Houtte unless he waits upon them with more attention and deeper concern than would the gallant of the ball-room upon the attendent belle.

If we look back at the antiquity of the rose we find it was cultivated by the Jews in the reign of Solomon, for mention is made of this flower in the books of that king. In the Songs of Solomon we have: "I am the rose of Sharon and the lily of the valley." In the book of Ecclesiastes, the author of which lived 700 years after Solomon, says: "Hearken unto me, ye holy children, and bud forth as a rose growing by the brook of the field;" and again, "As the flower of roses in the spring of the year."

Ancient writings are full of allusions to this flower. There is a legend that, at the creation of the world, the rose had no thorns, and was gradually furnished with them as mankind became more corrupt. This, however, is an oriental fable and not worthy of much credit.

The Greeks cultivated the rose at an early period, during the time of Homer, who lived 200 years after the wise Hebrew monarch. Both ancient and modern poets have celebrated in their songs the charming qualities of the rose. Mary Queen of Scots was so delighted with Ronsard's beautiful poetry on the rose that she sent him a magnificent rose of silver, valued at £500. It was a custom among the Romans to scatter roses on their tombs, and there can certainly be no more beautiful emblem chosen for that purpose in our days.

Sufficient has been given to show the esteem in which the rose was held by the ancient Greeks and Romans. In Great Britain the rose was cultivated for commercial purposes in the fifteenth century. The war of the roses — the rival factions of the white and red rose — arose in 1452, during the reign of Henry VI, between the house of Lancaster and of York. The Duke of York claimed that house possessed a nearer title to the crown than the reigning branch. He adopted a white rose on his shield for his device, and the reigning monarch, Henry VI of the house of Lancaster, carried a red rose.

After several furious civil wars, after having flooded the whole kingdom with blood, for nearly thirty years, the house of Lancaster reunited, in 1486, the two families, by marrying Elizabeth, the heiress of the house of York.

I might name the poets of every age who have sung the praise of this fragrant flower, but this must suffice.

Among the beautiful riches of the garden there are many flowers of great attractions; some we admire for their form, others, again, for delightful fragrance; and we scarcely pronounce the most pleasing. But whatever may be our feelings of admiration for these charming flowers, a desire for something still more beautiful draws us to the rose and compels us to pronounce it superior to all its rivals.

With the ancients, as with us, it was and is the emblem of beauty, youth, modesty and innocence. The most populous nations, the largest cities, the most wealthy and powerful kingdoms, have disappeared from the earth, while a simple flower has escaped them all and still remains to tell its story. It has seen a hundred generations succeed each other, and pass away; it has traveled through ages without changing its destiny or losing its character.

In these days, as in those of antiquity, it is par excellence the queen of flowers, because it is always the most beautiful. No flower can furnish its charms. Nature has added to its other qualities a delightful perfume, which alone would entitle it to the most lovely and pleasant things in the floral kingdom. Out of over 6,000 varieties, the number cultivated for the New York market as cut flowers is narrowed down till about twenty, in the following order:

La France is of French origin, raised by Guellott's sons in 1867, from the seed of a tea rose. It is now twenty-five years since its introduction in this country, and is quoted from three to fifteen cents in the New York flower market.

The Dutchess of Albany is a daughter of La France, and similar in every way, but is a deeper pink, very large and full, highly perfumed, plants rigorous and good habits.

Perle des Jardin, yellow, raised from the seed of a French tea rose, by Levet, in 1874, and is without doubt one of the finest of its color. The flowers are handsome in every stage of development from the smallest to the open bud.

No rose of its color ever cultivated for cut flowers, up to the present time is so valuable as this.

Catherine Mermet is of French origin in 1869. It is a beautiful, clear, flesh color, with a luster similar to La France, and is one of the very finest. The Bride (white) and Bridesmaid (pink) are two beautiful daughters of Catherine Mermet.

It was raised by James Taplin, of Maywood, N. J., and disseminated by John N. Meay, of Summit, N. J., in 1886.

Souvenir de Wotton.— A fine, dark shade of crimson, very fragrant, a constant bloomer, every new shoot forming a flower bud. This rose was raised a few years ago at Bryn Mayer, near Philadelphia.

The last and best I shall mention is the American Beauty, and American Belle, very suggestive of our wives and daughters. They cannot be too highly praised for their beauty and fragrance. They are hardy, having the everblooming qualities of the Teas with the delicious odor of the Damask rose. The flowers of these roses have sold in the New York market for $100 per 100, when sold at retail; single buds bring one dollar and fifty cents to two dollars each, at Christmas. It originated in the conservatories of Bancroft, Washington, D. C.

I have given the history of these roses as grown by myself and none can make a mistake in planting them under glass or out of doors as summer roses.

I would now desire to call your attention to the A, B, C, of rose growing, and other plants by propagation. I hold that the necessary knowledge to successfully propagate plants by cuttings is very simple. If for example, we wish to root cuttings of bedding plants, such as bourardias, chrysanthemums, fuchsias, geraniums, heliotropes, salvias, or verbenas, one of the best guides to the proper condition is, when the cutting breaks or snaps clean off, instead of bending. If it bends it is too old and though it will root, it will root much slower, and make a weaker plant than the slip that snaps off on being bent. April is a good time to take cuttings of geraniums and pot them in soil at once, instead of sand; they will be in fine condition to plant out by the first or middle of May.

The propagation of roses by cuttings is an exception to this rule. The wood must be hard and woody, when a rosebud is developed, to cut the shoot on which it grows is about the right condition for cuttings, each leaf of the shoot, with its bud at the axil, and two or three inches of stem making a cutting; that is what is called a single-eye cutting. If by any accident the leaf is taken or drops off, the rose cutting in this condition will never make a good plant, or if from any cause the leaf drops off while the cuttings are in the process of rooting, not one in ten will be worth taking care of.

From the time cuttings are inserted in the sand bed until they are rooted they should never be allowed to get dry; in fact the sand should be soaked with water until the cuttings are just on the point of rooting. If the ventilation is kept at a low temperature there will be no need of failure. It has the important advantage of producing a healthy stock.

The time required for cuttings to root varies from eight to twenty days, with average bottom heat of sixty-five degrees.

It is best to pot off the cuttings, when rooted, at once; half an inch long for the roots is about right length.

Care is required in shading and watering after potting, as when they are in the cutting bench. Cuttings should always be placed in small pots. Our soil for potting contains only two ingredients, two-thirds rotted sods and one-third cow manure. The sods are cut in early summer, and laid with grassy side together, so as to decompose, and the heap is turned once or twice in early spring, until it becomes pliable, then sifted through a three-mesh-to-the-inch, which will leave it in a proper condition for potting.

Insects.— The green fly is a very common insect and is a scourge to roses, from the facility of its reproduction, and its numerous progeny, sometimes entirely covers the leaves and buds. Reaumer estimates that a single pair might produce in one summer 6,000,000,000. Fumigation with tobacco smoke is one of the best remedies.

The red spider is a far worse enemy than the green fly, and far more tenacious of life. A hot, dry atmosphere is such as this pest delights to revel in. Syringing with a strong force of water is the best remedy.

Mildew, like all other diseases, are met best by prevention rather than cure, and for this reason all care should be taken to avoid extreme drafts and great variations in temperature. Sulphur scattered on damp tobacco stems is the best remedy we have found.

And now, in closing these few thoughts, let me say: A farm or village plot, made neat and tidy and kept so, and judiciously adorned with shrubbery, vines and flowers, is raised in value to purchasers. Nothing is lost in making the home beautiful. Ten years ago it is safe to say that there were not five dollars spent for flowers and plants in the little village of Monroe, and last year it is quite within bounds to say that $100 did not cover the outlay. Our school children and teachers have caught the beautiful idea of fixing up the ground and planting the fair flowers of early spring and summer. I trust the time is not far distant when at least one-half day in each week will be set apart to the children for the study of horticulture. Let us teach our children, by precept and example, the beautiful in flowers, and they will grow up to bless the old homestead and the goodly land we live in.

THE

WESTERN NEW YORK HORTICULTURAL SOCIETY.

PROCEEDINGS

OF THE

THIRTY-EIGHTH ANNUAL MEETING.

HELD AT

Rochester, Wednesday and Thursday, Jan. 25-26, 1893.

CONSTITUTION.

Article I. This association shall be entitled the "Fruit Growers' Society of Western New York,"* and its object shall be the advancement of the science of pomology and the art of fruit culture generally.

Article II. It shall embrace in its sphere of operation the counties of Chautauqua, Erie, Niagara, Cattaraugus, Orleans, Genesee, Allegany, Monroe, Livingston, Steuben, Ontario, Wayne, Yates, Seneca, Chemung, Tompkins, Cayuga, Oswego, Tioga, Onondaga and Cortland.

Article III. Any person may become a member of the society by paying into the treasury the sum of one dollar. The payment of ten dollars or more at one time will constitute a life membership.

Article IV. Its officers shall consist of a president, vice-president, a secretary and treasurer, all of whom shall be elected annually by ballot.

Article V. The following standing committees shall be appointed annually: An executive committee, a committee on nomenclature, a committee on American fruits, and a committee on foreign fruits, to consist of five members each, and a general fruit committee, to consist of three members from each county represented in the society, with a general chairman of the whole.

Article VI. The offices of the society, together with the executive committee, shall constitute the council, which shall have the general management of the affairs of the society during its recess, and of which seven members, including the president or one of the vice-presidents, shall form a quorum for the transaction of business.

Article VII. This constitution may be amended by a vote of two-thirds of the members present at any regular meeting, notice of the proposed amendment having been previously given.

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* Name changed in 1870, to "The Western New York Horticultural Society," by a vote of two-thirds of the members present. Name changed to "New York State Horticultural Society" in 1888. The name adopted in 1870 was resumed in 1889.

BY-LAWS.

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1. The committee on nomenclature shall collate and decide the standard and synonymous names of all fruits known to the society, with the authorities for each, and report so far as practicable at each regular meeting.

2. The committees on American fruits and foreign fruits shall, in their respective departments, examine, test and classify such new fruits as may, in a natural state, come under their notice, and report at each regular meeting. The committee on American fruits will, in the consideration of new seedlings, be guided by the rules of pomology as adopted by the New York State Agricultural Society.

3. The general fruit committee shall carefully and thoroughly investigate the subject of fruit culture in general. Each local committee of three shall collect such useful and interesting information in relation to the subject as may be in their power, and embody the same in a monthly report, to be made to the general chairman, such report to be by him examined and embodied in his annual or semi-annual report.

4. The annual meeting of the society shall be held on the fourth Wednesday in January of each year, in such place as the council may appoint, at which time the annual election of officers shall be held, an exhibition and discussion of fruits take place and other business transacted.

5. Other meetings may be convened by the council, at such time and places as they may appoint.

6. No member who is in arrears for dues shall be eligible to any office, or serve on any standing committee; and any member who shall neglect to pay his dues shall cease to enjoy the privileges of membership.

OFFICERS AND COMMITTEES.

President.— William C. Barry, Rochester.

Vice-presidents.— S. D. Willard, Geneva; Wing R. Smith, Syracuse; Geo. A. Sweet, Dansville; C. L. Hoag, Lockport.

Secretary and treasurer.— John Hall, 406 Wilder building, Rochester.

Botany and plant diseases.— M. B. Waite and F. B. Fairchild, Washington, D. C.; S. A. Beach, Geneva; Prof. A. N. Prentiss, Ithaca; C. H. Stuart, Newark; Prof. L. H. Bailey, Ithaca.

Chemistry.— Dr. G. C. Caldwell, Ithaca; Dr. S. A. Lattimore, Rochester; Dr. Peter Collier, Geneva; Mr. Fletcher.

Entomology.— Dr. J. A. Lintner, Albany; Prof. J. A. Comstock, Ithaca; C. M. Hooker, Rochester; J. F. Rose, South Byron; R. J. Hewson, Penn Yan; C. H. Stuart, Newark.

Foreign fruits.— George Ellwanger, Rochester; C. W. Stuart, Newark; John Charlton, Rochester; Geo. G. Atwood, Geneva; Geo. H. Moody, Lockport.

Flowers and bedding plants.— Charles Little, Rochester; Virgil Bogue, Albion; W. H. Smith, Rochester; E. A. Long, Buffalo; C. W. Seelye, Rochester; C. H. Perkins, Newark; Patrick Quinlan, Syracuse.

Garden vegetables.— Prof. H. H. Wing, Geneva; C. H. Perkins, Newark; C. E. Hunn, Geneva; J. M. Mersereau, Cayuga; E. S. Hayward, Rochester.

Grapes and small fruits.— C. M. Hooker, Rochester; I. D. Cook, South Byron; Mr. Ulsner, Syracuse; Frank Lewis, Lockport; Geo. S. Josselyn, Fredonia.

Native fruits.— John J. Thomas, Union Springs; W. C. Barry, Rochester; L. Woolverton, Grimsby, Ontario; A. M. Smith, St.

Catharines, Ontario; E. A. Bronson, Geneva; Prof. L. H. Bailey, Ithaca.

Nomenclature.— W. C. Barry, Rochester; J. J. Thomas, Union Springs; Hon. H. E. Van Deman, Washington, D. C.; S. D. Willard, Geneva; D. Bogue, Medina.

Ornamental trees and shrubs.— George Ellwanger, Rochester; Geo. G. Atwood, Geneva; John Charlton, W. S. Little, Robert Ades, Rochester.

Ornithology.— Chas. A. Green, Rochester; Prof. J. H. Langville, Washington, D. C.; Dr. C. Hart Merriam, Washington, D. C.

COUNTY COMMITTEES.

To visit orchards in their respective counties, and report at the annual meeting such facts in regard to their culture and management as may be of interest to the society; also in regard to the progress of fruit culture and the sale and shipment of fruits.

Cayuga.— John J. Thomas, Union Springs; D. M. Dunning, Auburn; H. S. Wiley, Cayuga.

Chautauqua.— Geo. S. Josselyn, Fredonia; Jonas Martin, Brocton; E. H. Pratt, Fredonia.

Erie.— E. E. Summey, Buffalo; M. T. Varney and D. H. Odell, North Collins.

Genesee.— Irving D. Cook, South Byron; Hon. Eli Taylor, East Elba.

Livingston.— A. W. Wheelock, Moscow; J. F. White, Mt. Morris; Geo. A. Sweet, Dansville.

Monroe.— C. M. Hooker, P. C. Reynolds and Michael Doyle, Rochester.

Niagara.— I. H. Babcock and B. W. Clark, Lockport; W. T. Mann, Barkers.

Onondaga.— Wing R. Smith, Syracuse; Samuel J. Wells, Fayetteville; M. H. Oschner, Syracuse.

Ontario.— E. A. Bronson, Geneva; Theo. T. Smith, Geneva; W. P. Rupert, Seneca; C. H. Darrow, Geneva.

Orleans.— Virgil Bogue, Albion; D. Bogue, Medina; Julius Harris, Ridgeway; J. Wood, Knowlesville.

Oswego.— L. J. Farmer, Pulaski; Geo. A. Davis, Mexico; Frank G. Tice, Oswego.

Seneca.— E. C. Peirson, Waterloo; C. J. Baldridge, Kendaia.

Schuyler.— I. T. Chase, Hector.

Steuben.— R. Longwell and Trevor Moore, Hammondsport.

Tompkins.— Prof. I. P. Roberts and Geo. H. Hook, Ithaca.

Wayne.— Byron J. Case, Sodus; C. W. Stuart, Newark; L. Yeomans, Walworth; C. H. Perkins, Newark.

Wyoming.— J. D. Sherman and Chas. H. Hess, Castile.

Yates.— G. C. Snow, Penn Yan; Geo. B. Arnold, Benton Centre.

PROCEEDINGS.

PRESIDENT W. C. BARRY'S Address.

Members of the Western New York Horticultural Society:

Gentlemen.— We are assembled here to-day to hold the thirty-eighth annual meeting. This association is now one of the oldest of its kind in the country, which has a continued existence to the present day. Prosperity, progress and improvement have attended our efforts, and the success which has been achieved is to be attributed, in no small degree, to these annual gatherings, where we exchange ideas, compare results and experiences, consider and review the causes of success as well as of failure, listen to instructive papers, discuss important topics, and, having added to our stock of knowledge and experience, we return home to resume our labors with renewed energy and enthusiasm.

Agricultural Education Necessary for Those Engaging in Agricultural Pursuits.

Among all human pursuits there is not another in which the advantage of a scientific education is more obvious than in the occupation we have chosen. Soils and their preparation, plants and their care, diseases and insects, and the methods to combat and control them, are interesting yet serious problems which confront us at every step, and which must be met either intelligently or ignorantly, with a varying degree of success or failure according as our knowledge of the subject enables us to act wisely or unwisely. The sciences of botany, chemistry, mineralogy and entomology are all closely related to every operation in connection with the tilling of the soil and the growth and development of plants, and the fortunate possessor of a knowledge of these sciences is specially equipped for his work and is certain to distance all competitors who do not enjoy the advantages which such an education affords.

At no period in the history of this country has it become so apparent, even to the indifferent and careless observer, that the cultivator of the soil must possess more than ordinary intelligence in order to succeed. With keen competition on every side, it is imperatively necessary that every acre of land in our possession should be productive in some way and to some degree. It is a well-known fact that even in this particularly favored State, famous the world over for remarkable climate and fertile soil, there are now thousands of acres of waste and uncultivated land which should be reclaimed and cultivated, hundreds of farms impoverished and unproductive which should be made to yield good crops; innumerable orchards which are old and going to decay which should be uprooted and replaced with young, thrifty, fruit-producing trees. No matter to what cause this unsatisfactory condition of things is due, the fact remains the same, and every member of this society interested in the welfare and prosperity of the State (and all are) should do his utmost to bring about the needed reform. I am aware that the members of this progressive organization are not to be counted among those whose surroundings are of the nature referred to, but it seems to me it is our duty, as intelligent cultivators, not only to do well ourselves, but to encourage others to do likewise. It must be admitted that the influence of educated labor is one of the requirements of the times and that the agricultural school is one of the most efficient agencies for the development of the agricultural resources and products of the State. The tilling of the soil is the most important of human occupations; all depend upon the products of the earth for sustenance; if we are favored with rich harvests, prosperity and happiness prevail. If the harvest fails disaster and misery follow. The advancement of agriculture means the advancement of civilization. Conditions have changed greatly in the last twenty years and the farmer and fruit grower of to-day need far more information than they did in the past. Labor saving implements are now so numerous that the old time drudgery of farm work is no longer experienced and some time is afforded for reading, study and improvement. The modern farmer and fruit grower must keep abreast with the times. He must be thoroughly posted as to markets for his products, for no matter how high the grade of his productions, or how neatly and tastefully put up, if the right market be not found, the prices received will not be remunerative. The farmer should not keep poor stock of any kind. The cost of caring for poor animals is as much as for good ones, and such stock is unsalable. No good merchant carries unsalable stock. The same principle applies to fruit growers. Cultivate only the best kinds that sell, and if you are unfortunate enough to possess unprofitable varieties, graft them over or destroy them.

The heads of agricultural colleges have come to a full realization of the situation, and have proposed a solution of the difficulties which agriculturists labor under at the present day in this State. At Cornell University, which holds the first place among similar institutions, and which the State of New York is to be congratulated upon having within its boundaries, special opportunities are afforded to young men who can not well spend four years in preparing to become farmers, and yet who wish to avail themselves of technical and practical instruction in modern scientific agriculture. This short course, while it does not give the advantages of the longer, yet it enables the student to acquire the fundamental principles of the sciences and a taste and love for study, and the studies commenced at college will be continued and completed at home. I, therefore, ask the members of this association, who have sons intending to take up agriculture or horticulture as a life work, to permit them to take advantage of the opportunities afforded at the colleges of agriculture, and thus become intelligent cultivators of the soil, and scientific and skillful farmers and fruit growers. Not only will they as individuals reap inculable benefit from such a course, but the people of the State as well.

Colonel Wilder, in one of his addresses said: "Let our young men, instead of rushing to the crowded marts of business to become highly civilized and distinguished in life, resort to our agricultural colleges and learn that the highest triumph of civilization is the conquest of mind over matter, the dominion of man over nature, improving, adorning and elevating her to the noblest purposes of creation." And again: "I had rather have the honor of producing a new grain, fruit or flower, suited to extensive cultivation, which shall bear my name long after I shall have ceased from my labors, than any other earthly distinction. Far better this than piles of polished granite or pillars of lying marble."

Experiment Stations.

The importance and utility of experiment stations can, in my judgment, hardly be overestimated. There are many no doubt who question the wisdom of expending money in this manner, but experiments must be carried on by some one; individuals certainly can not bear the expense, hence if the State or national government is unwilling to appropriate the necessary funds, the work of scientific investigation and experiment can not be undertaken.

The value of the agricultural products in New York State amounts in the aggregate to at least $130,000,000 annually, or upon an average of $340 a year for each of our 380,000 farmers. It is estimated that the capital invested in the dairy industry in the State is $400,000,000. Again, we annually buy in this State four or five million dollars' worth of commercial fertilizers, and the supervision of this business on the part of the experiment stations of the country has so resulted that in their purchase of $4,000,000 worth of these products the farmers of the State are able to save at least $6,000,000 annually. Doctor Collier says this may appear a paradox, but it is literally true, since such has been the improvement and reduction in price of these commercial fertilizers during the past twenty years that the farmers of to-day can buy for $4,000,000 the same aggregate of nitrogen, potash and phosphoric acid for which they would have to pay ten or twelve million dollars twenty years ago. It has been proved at the experiment station at Geneva that milch cows gave back in the liquid and solid manure a value in fertilizing constituents, nitrogen, potash and phosphoric acid, equal to seventy per cent of the market value of the feed fed the animals, and that threefifths of this was in the liquid portion. Now the milch cows of this State annually consume, at thirty-six dollars each, $56,000,000 worth of food, seventy per cent of which is $39,200,000. We have, besides, 1,462,872 horses, mules and oxen, costing quite as much more, and also 2,234,747 sheep and hogs. It is safe to estimate the manure made upon the farms of this State at $100,000,000, of which it is also safe to estimate that one-half or two-thirds is allowed to waste. If we can impress our farmers with the importance of this single point in their practice we shall have repaid many hundred-fold all the expense of our experiment station.

The work carried on at these stations is of such a character that it is well-night impossible to obtain immediate results. Much time is required to make accurate and reliable investigations and experiments, and as all of the stations are comparatively young, it is hardly fair to demand too much of them at present. I predict that ten years hence, when the stations are well under way, that their importance and necessity will be universally recognized, and then there will be no difficulty in obtaining from the State appropriations which will be ample for all the work.

Convinced, as I am, of the immense benefits that will accrue to the State through the development of agricultural resources by means of scientific experimentation and investigation, I call upon you, members of this society, to exert all the influence you possess to secure for this institution such appropriations as are necessary.

Insecticides and Fungicides.

Entomologists inform us that there are 300,000 varieties of insects, most of which are not injurious, but many are liable to become so through change of temperature or lack of sustenance. This fact shows how important the science of entomology is. The Department of Agriculture is entitled to the greatest credit for the efforts it has made to study the life-history and characteristics of these insects, as well as to discover means of checking their ravages. The experiments in insecticides and methods of spraying have been invaluable. During the past year spraying has been pretty generally practiced, and the results, though hardly fulfilling expectations, have, on the whole, proved beyond a doubt that there is merit in the operation and that in the near future complete success may be expected. The history of the efforts made to exterminate the cottony cushion or fluted scale, which threatened the entire destruction of the orange groves of southern California, is a forcible illustration of the value of scientific investigation, and furnishes convincing proof of the wonderful progress made in the last ten years in controlling injurious insects. Through the efforts of the department a parasite to the pest was imported from Australia and propagated in California, and by this means the orange groves were saved. The benefit of this discovery has been enjoyed by other countries, also. In New Zealand the example of the California growers was followed with good results and other countries are now engaged in similar work for the destruction of the insect pests. We are informed by the department that 250 new or nearly new injurious insects have been studied to a greater or less degree during the year.

The operation of spraying is carried on in California in a most thorough and systematic manner, and their methods are worthy of consideration. In large orchards a tank is placed on a farm wagon and filled with the material to be used. Four pieces of rubber hose, with nozzles, lead from a force pump placed across the tank, and with one good man at the handle and four men on the ground four large trees are sprayed at the same time.

Does Spraying Pay?

This is at present a very pertinent and important question and results have proven that it does pay if practiced with knowledge, judgment and skill. In this, one of the chief apple-growing sections of this country, every possible effort should be made to control the effects of insects and diseases, so as to secure a good crop. It will not do to submit without a struggle and allow these foes to ruin so valuable an industry. The apple scab which threatens most injury can and should be checked. For this disease the copper compound seems to be most effective.

Four sprayings should be made; the first just as the flowers are opening; the second, twelve or fourteen days later, and the third and fourth at similar intervals. In case the season is wet, one or two additional treatments will undoubtedly pay. It is of the utmost importance to commence spraying early, as the scab lives through the winter on the buds. The receipt is: Eight ounces carbonate of copper, ammonia one gallon and 100 gallons of water; or, in small proportions, use two ounces of carbonate of copper, one quart of ammonia, strong, and when the copper is completely dissolved, pour the mixture in a barrel and add twenty-five gallons of water. After many tests by different persons, in various places, it has been decided that spraying for the plum curculio is not advantageous, the foliage of the tree being too tender, and, therefore, it should not be resorted to. The old-fashioned method of jarring must still be depended on for stone fruits. Spraying the pear with arsenites has proved very effective in destroying curculio and fungous diseases. For the various grape maladies — black rot, mildew, anthracnose — the Bordeaux mixture and copper carbonate solution have proven an effective remedy. To kill the insect or control the disease, without injury to fruit or foliage, is the object sought, but not always accomplished, owing to inexperience. But practice makes perfect, and those who are sufficiently interested to continue the trials will ultimately succeed. I quote from Dr. Halstead's report, as follows:

"Along with the study of fungi and a wish to apply remedies there has been a constantly growing demand for spraying apparatus. The growth toward perfection of this branch of the subject has been phenomenal, for, within the past year or two, the number of patterns of pumps, nozzles, etc., is only equaled by the ingenuity of the Yankee mind, and the end is not yet. Cheaper and more convenient spraying will come yet, and the day is not far distant when fungicides and means of applying them will be as much a part of the equipment of a first-class farm, particularly one devoted to fruit or truck, as the cultivator or market wagon.

Marketing Fruit — Systematic Distribution to Secure Better Prices.

One of the greatest difficulties fruit growers encounter is the marketing of their products. For some unaccountable reason the crop of almost every grower is, as soon as ripe, hurried off to three or four of the large eastern markets, and immense quantities arriving at the same time cause prices to drop to an extent which is disastrous to the shipper. How to secure a systematic and uniform distribution of fruit is a vital question which the grower is now forced to consider. The Niagara Grape Company was the first to originate and adopt a plan of distribution which has been successful and satisfactory. In view of the low prices received this year for grapes, the growers in the vicinity of Keuka lake have called a public meeting of the vineyardists of the State, inviting them to co-operate for the purpose of devising some plan whereby reasonable prices may be obtained in the future. This action is certainly prudent, and the question should be kept under consideration until some satisfactory conclusion is reached. By combining, growers will be enabled to employ competent persons, whose business it shall be to look up markets, attend to shipments and secure fair prices. Trickery and deception in the way of putting up should be discountenanced and condemned, and a reputation for honor in grading and packing should be established and maintained. It is easy to build up a reputation for good goods and careful grading, and such a reputation will be invaluable to its possessor.

Home and Foreign Markets.

There is a ready sale for good American apples abroad, but foreign buyers this year make numerous complaints about the consignments, which, they say, were inferior in quality and poor in condition. This was principally Maine and Canadian fruit. Only fruit of best quality can be shipped abroad advantageously. Last year, at this time, about 1,100,000 barrels had been sent to the English market. The amount shipped this year is 100,000 less.

The apple crop, as a whole, in New York State, was not what it should be, owing to the prevalence of apple scab and injurious insects. Hardly an orchard or a variety escaped injury. In Ontario county, however, the fruit crop was large, and growers in that section are extremely gratified with the results. Instead of shipping the usual amount abroad a new market was found at home, as the following illustrates: In New Hampshire it is stated about 500,000 barrels were shipped over the Boston and Maine railroad, two-thirds of which were raised in New Hampshire; and the noticeable feature about this crop was that the bulk of it was shipped to western cities. Good prices were paid to the farmers, the price, per barrel, averaging one dollar and eighty-five cents. The estimated cost of producing the fruit is about fifty cents per barrel, hence the grower must realize well from his crop. A purchaser from Sioux City, Iowa, is said to have left $25,000 in Rockingham county, New Hampshire, for apples, and so pleased is he with the fruit that he intends to become a regular buyer. The reported sales show that not less than $700,000 have been received for apples shipped this year from New Hampshire.

An interesting experiment in shipping American grapes to England was made this fall by the growers in Chautauqua county, who shipped several car-loads by steamer Germanic, arriving in Liverpool fifth of November. The grapes were unloaded in good condition, and were sold at thirty-nine cents to forty-five cents per basket; 1,000 baskets sent to London sold at forty-five cents to fifty-seven cents per basket. It is said that the grapes sent were Concord, and that they netted the producers twenty cents to twenty-three cents per basket, but that the flavor of the fruit was not satisfactory to the English palate. It is believed that if the higher-flavored varieties could be sent safely a good market will be established there. It is hoped that the experiment will be repeated next year on a larger scale, and that Delawares and well-ripened Catawbas and other choice kinds will be forwarded to make the test a critical one.

How to Get the Best Returns from Farm Lands.

The wheat crop in this section is no longer a profitable one. Indeed, it is almost certain that at seventy-five cents a bushel, it is really produced at a loss. With a rich and fertile soil in our possession and an admirable climate for fruits of all kinds, the question at once suggests itself whether farms which are unprofitable under farm crops can not be made remunerative when put under fruit? On almost every farm there are parts which are favorably located, high, dry and rich, and such portions should be planted with fruit, embracing a variety and including small fruits. The fear of over-production need not deter any land owner from engaging in the undertaking. Experience has taught that in this country there are many mouths to feed, and that if the value of fruit is not yet appreciated or understood, the time will soon be at hand when it will. The markets of the world are open to us, too, and we have but few competitors.

State Fair Exhibits.

Extensive preparations were made to secure a large and choice exhibit of fruit at State fair, but the hopes and expectations were not fully realized. Messrs. Willard and Powell and others devoted a good deal of time and labor to the exhibit, and are entitled to the thanks of the society for their efforts. It is hoped that this year steps will be taken to secure the first prizes.

Good Roads.

The movement now in progress to improve roads and highways is an all-important one for the fruit grower. Good roads make good markets, and often leads to new markets, while poor roads frequently prevent growers from disposing of their products. Fruit transported on rough roads is always more or less damaged. While it may not be possible to bring about immediately the reform in road-making that is desired and needed, still if a little more attention were given to the subject, many great improvements might be effected at a moderate cost.

It is a well-known fact that under the present system, many owners of property escape the road tax entirely. If the road commissioner and pathmaster would take hold of the matter seriously and compel the work to be done, there would be far better roads than there are. Again, it seems to me that it would not be difficult or impossible to get extra work done every year. This is a subject of vital importance to every land owner, and the interest which has been aroused should spread to every locality and should not be allowed to subside until the problem is solved satisfactorily.

Report of Proceedings, Meeting of 1892.

At the last meeting arrangements were made to have the proceedings of this society published with those of the New York State Agricultural Society. In consequence of a fire in Albany, the reports were entirely destroyed, and, as yet, have not appeared. It will probably be better to publish our proceedings independently first, and then, of the State society desires, it can reprint them.

In Memorium.

Since our last session several prominent and useful members of this society have been removed by death. Mr. Joseph Harris died at his home, Moreton farm, near this city, on the morning of November 18, 1892. He was born on January 26, 1828, in the village of Shawbury, England, near the celebrated battlefield of Hastings. Mr. Harris was the author of several works on agriculture, and was a most entertaining and instructive writer. He was a regular and constant contributor to the American Agriculturist since 1886, and his "Walks and Talks" on the farm were so favorably received by the American public that the number of subscribers to the paper increased astonishingly. Early in life he studied agricultural chemistry with Messrs. Lawes & Gilbert, on the experiment farm at Rothamstead, and the knowledge gained there was invaluable to him in after life. He found in America extraordinary opportunities for imparting to others much needed information, and was the direct means of advancing agriculture to a remarkable degree, at a period when educators of this class were few in number. In his intercourse with men he was genial, modest, retiring, and was always held in the highest esteem by all who became acquainted with him. This society has lost a sincere friend, and scientific agriculture a most devoted and scholarly advocate.

Godfrey Zimmerman, for a long time one of the most active members of this society, died at his home, Pine Hill, Buffalo, N. Y., June 29, 1892. He was born in Alsace, April 29, 1815, and settled in Buffalo in 1833. He established the Pine Hill nurseries in 1840 and continued that business as well as fruit-growing until the time of his decease. Mr. Zimmerman was recognized as one of the pioneer nurserymen of this country, and by his efforts contributed greatly towards creating a taste and appreciation for beautiful trees and choice fruits. Around his home to-day are growing handsome specimens which he planted and cared for, and which will stand as a monument of his life labor. He was a true and devoted friend of this organization — in his death it has sustained a severe loss.

P. C. Dempsey, a well-known member of the Fruit Growers' Association of Ontario, died 27th of August last. He attended several of the meetings of this society as a delegate and made a most favorable impression upon all who met his. During his life-time he rendered great service for horticulture in Canada and his memory will long be held in grateful remembrance.

Thomas Hogg, a distinguished botanist and horticulturist, died in New York city on the thirtieth of December last. He made several trips to Japan and collected many valuable trees, shrubs and plants, which are now employed to embellish gardens and grounds. The beautiful varieties of Japan maples, now so highly prized for decorative purposes, were introduced into this country by him. Besides these he brought many other plants of exceptional value. His name will be treasured among those who have contributed largely to the promotion of horticulture in America.

William Sessens died in Geneva, July 4, 1892, being 72 years of age. He was a regular attendant at the meetings of the society, and took great interest in its welfare. He carried on the nursery business for a number of years successfully and profitably, and leaves behind him a record of an active, honorable and well-spent life.

Another member, George H. Allen, of Brockport, died July fourth, in the 67th year of his age. He was a life-long resident of Brockport, and was closely identified with all the business interests of the place. He was recognized as a leader, with commanding character, and possessing in eminent degree the esteem and confidence of his fellow citizens. He was an ardent lover of nature and took great delight on his farm, where he put in practice the most approved methods of cultivation. One who knew him well says: "He was a man of scrupulous honor and integrity, a warm friend of all; an affectionate husband and father and a prudent and careful man of business."

Bennett Bassett died at his home in Farmer, N. Y., May 2, 1892, at the age of 69 years. He took a great interest in fruit culture and was a valued member of this organization.

It is with great regret that we note the decease of P. B. Crandall, of Ithaca, N. Y., who was a well-known and esteemed member of this society. His death occurred June twenty-third, being 76 years old. He was a warm friend of this organization and an active participant in its proceedings so long as his health enabled him to attend the meetings.

Conclusion.

And now, my friends, as we realize that the pioneers of this organization are, one by one, passing away, leaving behind them records of useful lives, let us hope that we may have the ability to continue their work, prosecuting it with like zeal and enthusiasm and achieving similar triumphs. The field is larger, opportunities greater and facilities better. In the language of Colonel Wilder, "Work on, then, my brethren; work on, persevere to the end, and as surely as the sun shall shine and the rain descend, so surely shall your labors be crowned by a harvest of glorious fruits for mankind."

Reports of Standing Committees.

BOTANY AND PLANT DISEASES.

By Prof. S. A. BEACH, Horticulturist, New York Agricultural Experiment Station.

Your committee on botany and plant diseases has endeavored to secure from each member of the society a statement of the plant diseases most prevalent in his locality during the past year. A circular letter was prepared in which were listed the most common diseases of the orchards, vineyards, nurseries and small fruits, and each correspondent was asked to state his opinion concerning the following questions:

1. Which of the plant diseases has caused serious injury in your locality during the past season?

2. Of these diseases which three caused most damage?

3. State, if possible, the per cent of injury.

4. What remedies for plant diseases have been used in your locality?

5. What success has attended the use of these remedies?

6. Has any new disease appeared, and if so, how much damage has it done?

In tabulating the replies received in answer to this circular letter, three classes were used, namely: (1) Severe, to which was credited those reports which stated that the disease was abundant or that it caused serious reports which stated that the disease was abundant or that it caused serious loss; (2) Considerable, including reports of attacks, which, although of considerable importance, did not cause severe loss, and (3) Slight, including those cases in which the disease caused no appreciable loss although its presence was recognized.

Considering first the orchard diseases we notice that apple scab was mentioned by thirty-one correspondents in all.

ORCHARD DISEASES.

	Severe.	Considerable.	Slight.	Total.
Apple:				
Scab	15	8	8	31
Pear blight (fire blight)	....	....	7	7
Pear:				
Leaf blight	1	3	7	11
Scab	11	8	8	27
Pear blight (fire blight)	1	1	9	11
Quince:				
Pear blight (fire blight)	1	....	2	3
Fruit spot and leaf blight	14	4	8	26
Plum:				
Leaf blight	2	4	8	14
Fruit rot	17	....	11	28
Black knot	3	5	14	22
Peach:				
Yellows	5	1	10	16
Leaf curl	6	3	11	20
Fruit rot	1	2	5	8
Cherry:				
Leaf blight	1	....	3	4
Fruit rot	6	2	8	16

NURSERY DISEASES.

	Severe.	Considerable.	Slight.	Total.
Apple:				
Powdery mildew	....	1	8	9
Pear:				
Leaf blight	3	2	8	13

Pear blight (fire blight)	....	....	6	6
Cherry:				
Leaf blight	2	2	7	11
Plum:				
Leaf blight	2	3	6	11
Quince:				
Leaf blight	2	1	5	8
Fire blight	....	1	....	1
Horse chestnut:				
Leaf blight	2	1	6	9

VINEYARD DISEASES.

Black rot (apple rot)	6	1	8	15
Downy mildew (brown or gray rot)	10	3	5	18
Powdery mildew	2	3	3	8
Anthracnose	....	....	10	10
Ripe rot (of grapes and of apples)	....	....	....	....
Rougeot	....	....	1	1

SMALL FRUIT.

Raspberry:				
Anthracnose	2	3	4	9
Rust	....	....	1	1
Strawberry:				
Leaf blight	....	1	4	5
Currant:				
Leaf blight	....	1	3	4
Gooseberry:				
Mildew	2	1	3	6

Judging from these reports only, it would seem that in western New York the worst orchard diseases in 1892 named in order of destructiveness were apple scab, plum fruit rot, pear scab and quince fruit spot. Some correspondents estimate that from fifty to seventy-five per cent of the mature fruit in apple orchards were affected by scab to such an extent as to injure its market value, and that the loss of a considerable amount of fruit which failed to reach maturity was probably due directly or indirectly to attacks of the scab. Among the pears, Bartlett, Seckel, Flemish Beauty, White Doyenne, Clapp's Favorite and Louise Bonne de Jersey were mentioned as badly affected, while Duchess d'Angouleme and Beurre d'Anjou were attacked less severely. The loss with some varieties, notably Seckel, in certain instances reached to 100 per cent of the crop.

The fruit rot of cherry, plum and peach, which is caused by the same fungus, namely, Monilia fructigena, P., seemed to be specially destructive to plums. Messrs. T. C. Maxwell & Bros., of Geneva, remarked it was the worst they had ever seen it. J. Haunam Clark, of Moreton Farm, Monroe county, reported nearly the whole crop destroyed. C. F. McNair & Co., of Dansville, estimated the loss at seventy-five per cent of the crop, while several others from various localities reported a loss of from one-third to one-half the crop. Lombard, Gueii, Bavay's Green Gage and Yellow Egg were mentioned in particular as being badly attacked by the rot. Altogether this disease seems to have been very serious in western New York during the past season. It injured cherries very much in some localities, but only one correspondent, Mr. C. W. Stuart, of Newark, mentions it as seriously affecting peaches.

Quince fruit spot and leaf blight was particularly severe in Niagara, Monroe and Ontario counties. In some orchards from fifty per cent to seventy-five per cent of the fruit was spotted. Mr. Willard Hopkins, of Lewiston, Niagara county, says that it "ruined the fruit in many orchards and seriously injured most crops."

Among nursery diseases pear leaf blight, plum leaf blight and cherry leaf blight were most destructive. Six correspondents noticed a small amount of pear fire blight and the Idaho was twice mentioned in particular as being blighted.

Downy mildew took the lead of the fungous enemies in the vineyards, though black rot was a formidable rival for the first place. The only other vineyard disease which was noted as being severe or even of considerable importance was the powdery mildew. Ripe rot was not mentioned. Rougeot was noticed only by one correspondent, Mr. B. J. Case, of Sodus, Wayne county. Anthracnose, one of the most difficult of the whole list to contend with, was given slight recognition in ten reports.

Raspberry anthracnose and gooseberry mildew were the worst diseases found among the small fruits.

There was little testimony offered in reply to the questions of the committee as to what remedies were used for plant diseases and the measure of success attending their use. Of the fifty replies which were received, twenty-two, or nearly one-half, were silent on this subject. Six stated definitely that no remedies were being used in their locality and twenty-two stated that remedies were being tried, chiefly copper compounds applied in the form of a spray. Three reported no perceptible benefit from spraying, five reported fair success, six reported good success, and eight reported very good success.

Mr. F. B. Hutchings, of North Chili, Monroe county, states that apple scab was largely prevented by spraying, and Professor Lodeman, of Ithaca, found that treatment with Bordeaux mixture apparently reduced the loss from apple scab thirty per cent, and Paris green treatment reduced it fifteen per cent. Mr. Charles W. Seelye, of Rochester, and Mr. George T. Powell, of Ghent, report perceptibly good results following the use of Bordeaux mixture for apple scab. Another correspondent used ammoniacal solution of copper carbonate with no apparent benefit.

The only remedy reported for fire blight of apple and pears was the cutting off and burning of affected parts.

Nursery stock was sprayed for leaf blight by Messrs. Smiths & Powell, who used Bordeaux mixture on pear and ammoniacal solution of copper carbonate on plum, cherry and apple, but saw no good results from the use of these mixtures in 1892. Mr. C. W. Stuart, of Newark, reports good success in spraying nursery stock for leaf blight, but does not state what fungicide was used.

Mr. H. S. Anderson, of Union Springs, used Bordeaux mixture as a preventive of leaf blight on pear stocks with good success when treatment commenced early enough in the spring. Messrs. R. G. Chase & Co., of Geneva, obtained beneficial results in using the same fungicide for cherry leaf blight, but think they would have had better success had the treatment began earlier.

Several correspondents report good results in preventing black rot, downy mildew and powdery mildew of grape, using for this purpose either the ammoniacal solution of copper carbonate or the Bordeaux mixture. Best results were obtained when they were careful to begin the treatment early and make the applications thoroughly and timely. Mr. H. O. Fairchild, of Hammondsport, said that those who applied these copper mixtures, and did it thoroughly, saved their entire crop, except here and there a berry, while in unsprayed vineyards the loss from disease varied from ten to fifty per cent of the crop. The benefits of thorough treatment are acknowledged by all vineyardists in that vicinity, and many now say they will spray the coming season.

Two or three reports mentioned new diseases or what appeared to be new diseases. Mr. W. T. Mann, of Barkers, Niagara county, calls attention to a blight of black raspberry which defoliated a three-acre field, but in a short time new foliage appeared in place of the old. Others report hard, sour grapes which do not ripen. These seemed most aboundant on Niagara, but were also found on Catawba, Worden and Concord. No other varieties were mentioned in connection with this disease.

The committee was unable to secure a list of the members of this society for the year 1892, and therefore mailed the circular letter to those names only which were found on the membership list for 1891. Over 300 letters were sent out, but not one in six of the members took the trouble to reply. This would seem to indicate on the part of five-sixths of the members a lack of interest in the work of the committee. We sincerely hope that such is not the case and that the indifference is more apparent than real. The investigation of plant diseases is acknowledged to be of prime importance to the horticulturist interests of Western New York, but not everyone, perhaps, will readily concede the importance of a report designed to collate reliable information for each season as to the prevalence of the various plant diseases in this section and the losses which they inflict upon horticultural interests. If a careful estimate of the prevalence of plant diseases and of the losses which they occasion could be incorporated into each yearly report of this society we believe it would furnish very important data to the student of plant diseases and the record would grow more and more valuable each succeeding year. Not only would such reports be of great value to students of plant diseases, but directly or indirectly they would be also of practical benefit to the membership of this society.

These diseases are not equally prevalent in all localities. For instance, some grape-growing sections are badly infected with black rot while in other districts the vineyards are comparatively or even wholly free from this enemy. The same may be said of plum black knot, of peach yellows, of grape anthracnose, or of other diseases of economic importance. Some of these diseases are very difficult to contend with and it is much easier to repeal their first invasion than to dislodge them after they have once gained a foothold; moreover, many horticulturists are not sufficiently familiar with the character of some of these troubles to be able to detect their first appearance, and therefore a serious disease may be allowed to propagate unnoticed and unmolested until it causes a loss sufficiently large to compel its recognition. Having thus gained a foothold it may be necessary to fight it at great expense when, if it had been taken in time, possibly it could have been easily controlled or even eradicated. If a list of the diseases common to horticultural products of Western New York was issued by this society early in the season each year with the request that each member make careful observation as to the prevalence of the disease mentioned and the damage caused by them, would not more of the members of the society be on the alert in this matter, be more apt to observe the first appearance of disease in new localities and more prompt in taking necessary remedial or preventive measures? Shall we not, then, take such action at this meeting as may be necessary to insure the publication each year of a careful report on the prevalence of plant diseases of economic importance, the losses occasioned by them and the remedial or preventive measures which have proven most successful in the conflict with these diseases.

Professor Bailey.— We get at a knowledge of the laws of meteorology through the tabulated data of weather observers. We need the same kind of data in regard to plant diseases. We know certain diseases are destroyed by certain fungicides, but we do not yet know the effect of the weather upon the spread or hibernation of these pests. We need, therefore, some sort of systematic series of data collected every year to go on record, and I hope the suggestion contained in the report will be codified into a resolution of this society. One of the most important things to know, in the future, is what we may call "mycological prognostications." The question was asked two years ago in reference to the disease on the apple trees, What will be the effect upon next year's crop? No one answered; no one knew. But if we had this data collected for a series of years we should be able to prognosticate replies in such cases. This data should be collected by the committee on plant diseases.

[Action upon the suggestion was subsequently taken and will be found under the department of "business."]

Professor Beach.— Mr. Smith informs me now that he attributes their poor success from spraying last year to the rainy weather.

Mr. C. M. Hooker.— I think that point comes in here every year. We found it so; it depends on the weather. We are inclined to expect too much from spraying. I thought, with the chemicals and spraying apparatus, we controlled the conditions, but the experience of the past year has demonstrated the fact that we may have all things ready, a fine show of blossoms, and yet in a few days a heavy rain will destroy our crops. We shall find that, notwithstanding the spraying and the use of fungicides, the climatic influences will determine the matter. Spraying the quince last year was not effectual; probably they require four or five applications, if the weather will permit. I think a great deal of good may be derived from spraying, but we shall not get all the benefits we need from it. Professor Goff, in his experiments in

1891, found that Paris green solution was a better fungicide than any of the other copper solutions or other remedies tried.

Professor Bailey.— I think we have been scared out by the wet season; and yet I think we never had better results than the past season with the Bordeaux mixture and Paris green in orchards. We shall spray earlier in the future than we have before done. The wet season is when we need to spray most. Our experiments have been exceedingly interesting this year.

Mr. Willard.— We must study this important subject at our homes. Special reference is made in the report to the spotted condition of the quince in Niagara county and other sections. We know that is the result of fungi. I would go further back than spraying, and commence with proper feeding to fit the trees to resist fungi. As a rule we have used too much of nitrogenous manure, which fosters the condition of things we are trying to fight. We must use more potash and phosphoric acid in plant foods. My quinces were remarkably clean last year, but I do not know that it is absolutely due to using that kind of plant food.

Professor Beach.— In a recent letter Professor Goff states that he considers Bordeaux mixture the best thing for spraying. There are no better results with Paris green than with the mixture. It will not do to depend upon it as a fungicide.

Professor Lodeman.— Analysis of Paris green shows it to consist of about twenty-five per cent of copper, and since copper is the basis of our best fungicide, it was thought that the Paris green might possess some fungicidal value, consequently it was tested in our field work during the past season. We commenced our work a little too late. The second application was made a week later. In spite of that we reduced the apple scab from twenty-five to forty per cent with Bordeaux mixture. We reduced it with Paris green from fifteen to twenty-two per cent — about half as valuable as Bordeaux mixture. The wet season is when we need to spray most. The rain will undoubtedly wash off much of the fungicide, but I think, if the application is made from seven to ten days apart till the apple is one-half grown, there will be little damage from the scab. One application should be made immediately before the blossoms open. The frequency of future spraying must depend on the weather, the intervals varying from seven to fourteen days. Two years ago we sprayed parts of trees five times with ammoniacal solution of copper carbonate. On the parts sprayed the foliage remained till the latter part of October. Last year the same trees were again treated, but only one application was made. Apparently no good results followed, showing that unless a proper number of applications be made the work has but little value. The past season I sprayed an orchard with a combination of fungicide and insecticide, adding Paris green or London purple to the Bordeaux mixture. The arsenites appeared to be as effective as when applied alone, and I think that the above combination is one which should come into general use, as it is safe and practicable.

CHEMISTRY.

BASIC SLAG PHOSPHATE.

By Dr. G. C. CALDWELL, Professor of Chemistry, Cornell University.

It is mostly in matters of fertilizers that the agricultural chemist and the horticulturist are mutually interested. In the papers that I have read before this society I have rung pretty much all the changes that are possible on this subject, especially on the nitrogen question, the most important of all questions relating to the feeding of crops. Next to that in importance is the question of the supply of phosphate. On this I have not said much. It is, for the horticulturist, of less importance than questions of the nitrogen supply, and perhaps of the potash supply, although so far as general agriculture is concerned ranking next to nitrogen.

In a report of the progress in chemistry in its relation to horticulture, read here in January, 1890, I said that a large number of experiments had been made in Germany with what is called Thomas Slag, and a few of their experiments were with grapes, and with satisfactory results; but that, as this fertilizer was not then offered for sale in this country, I would not take the time to give an account of the experiments. I said then that in my opinion this new fertilizer would be sure to come, sooner or later.

Now it appears that my prediction may soon be verified; and a short talk about this matter may interest you, and be useful soon, if not now.

This fertilizer is known by various names; such as Thomas Slag phosphate, basic slag phosphate, basic slag, slag phosphate, etc.

It is made from the slag produced by a process for making Bessemer steel from ore so rich in phosphorus as to be unfit for steel made by the usual method. It is stated that there are not over thirty deposits in the world yielding ore from which steel can be made by the old process, while there are many ores too rich in phosphorus for that process, any of which can be worked by the new one — that nearly all the iron ores of the Southern States are of this character. The prospects are, therefore, that this process being now worked in this country, great quantities of this ore will be utilized.

All the phosphorus from the ore, or nearly all of it, goes into the slag, and a product is obtained which is easily ground to a very fine powder, and may contain as much as twenty per cent or more of phosphoric acid. It can not be used for the manufacture of superphosphate for it contains too much iron; superphosphate made with it would become damp, and would deteriorate on keeping, for other reasons. Hence, if it can be used as a fertilizer, the farmer will have no competitor for the purchase of it.

In 1880 15,000 tons of this product were used as a fertilizer in Europe, in 1885 283,000 tons, and in 1890 783,000 tons. This enormous increase of itself speaks strongly for its usefulness. For more than ten years the process has been applied in Europe in the manufacture of steel; in this country an injunction against its introduction was obtained by the steel makers, whose business would be injured by it; now it is stated that this injunction is no longer in force, and at least one firm in Pottstown, Penn., is making both the steel and the fertilizer — the latter at the rate of 18,000 tons annually, and the promise of doubling the output soon. If there is anything of use or value to farmers or horticulturists in this new fertilizer, it is time to be looking it up, and getting ready to test it.

In the superphosphates as ordinarily sold, there are three phosphates of lime, and in this basic slag there is another, they differ from one another in chemical composition; of more consequence to the farmer is the fact that they differ in solubility, and consequently in the ease with which the crops can get the phosphoric acid out of them for its own needs. One of these phosphates is soluble in water; and it is this one that give to the superphosphates their special value as a quickly acting fertilizer. The most insoluble of the four is also obtained in ordinary superphosphates, when they are made from mineral phosphate, such as the South Carolina rock, or the Canada phosphate. Between these two come the so-called reverted phosphate of the superphosphate, and the phosphate of the basic slag — neither of them soluble in pure water, but both of them much more soluble in the pores of the soil than the rock phosphate is. The reverted phosphate, which means gone-back phosphate, was so named because it is formed from the soluble phosphate of the superphosphate, under certain conditions, and its formation is really a going back from that more valuable phosphate.

The trade value of these three phosphates in the superphosphate is, as adopted by the leading experiment stations in the eastern States, seven and one-half cents a pound for the phosphoric acid in the soluble phosphate, seven cents for the phosphoric acid in the reverted phosphate, and only two cents for the phosphoric acid in the insoluble phosphate. These values are supposed to represent to some extent the comparative values of the three phosphates to the farmer; certainly the insoluble phosphate in ground rock, be it ever so fine, is not worth more than a fourth as much as the water-soluble phosphate for the return of the investment; and it has for a long time been maintained by some that there is not enough difference between the usefulness of the water-soluble phosphate and the reverted, to make it worth the while to allow different values for them. You see that this difference is very small, even as made by those who do believe in a distinction in value. It would be rather difficult to tell what this small distinction is based on, anyway.

No trade value has been set in this country on the phosphoric acid of the basic slag phosphate; for it is not yet really in the market; and until it does become a regular article of use and trade, no valuation can be fixed upon it. These prices are made up partly on the basis of demand and the supply of the raw materials. It is probable that the trade value of a pound of phosphoric acid in the basic slag will not differ much from that of the reverted phosphate. The solubility of the phosphate in the slag differs so little from that of the solubility of the reverted phosphate, that so far as the valuation is based on probable usefulness to the farmer, for the making of his crops, there will be little reason for any difference in this respect either. The demand for it may, however, run the price up, if this new fertilizer, new at least for us in this country, shall come to meet with such favor as in Germany.

It is stated that the German farmers demand more than can be supplied, not only by furnaces in Germany, but also by importations from England; or, to put it in figures, the 325,000 tons of the phosphate supplied by the German furnaces in 1889 was not enough, and a part of the 103,700 tons, or thereabout, made in England, was sent over to the continent. It is sold in Germany, according to one statement that I have seen, for from fifteen dollars to twenty dollars a ton, or the equivalent of that in German currency and weights. The great demand for it is indicated also by the fact that they are already seeking how to adulterate it, or in some other way to manage to sell it for more than its real value, such as belongs to the genuine article of good quality. As it comes from the furnace, it is not all equally good; and that which is good can be easily mixed with ground rock phosphate which is far inferior to it in value. Therefore, when it comes on the market, it will be necessary to subject it to the scrutiny of the agents of the experiment stations, as much as it is necessary to have the superphosphates submitted to inspection and analysis. The fineness of the grinding of it is also a matter of great importance, just as is the case with bone meal; and the ease with which it is ground, to which I have already alluded, adds to the value of the raw product; for it is on that account so much the easier to make it readily assimilable in the soil.

In the trade valuation of bone meal, the fineness of the grain is taken into account; and so it must be with the slag phosphate.

Two or three instances of the sale of this slag phosphate in this country have been mentioned in reports of experiment stations. In the report of the Massachusetts Station for 1890, an analysis of a sample is given, the per cent of phosphoric acid being twenty-one and sixty-five one-hundredths. In the New Jersey report for the same year, another analysis shows very nearly the same amount of phosphoric acid; and it is reported as sold at twenty-five dollars a ton. In the Connecticut report for 1890, it is mentioned as sold for sixteen dollars a ton, and containing nineteen and seventy-five one-hundredths per cent of phosphoric acid. On inquiry of the Mapes company in New York, I learned that they do not deal in it, that there are very few calls for it, and that they do not know where it can be obtained. So far as I know, it is sold by but one firm, located in Pennsylvania, that is making steel by this process.

Since this phosphate is so rich in iron, some have expressed the opinion that this substance might do harm; but there is no reason to fear anything of this kind. Every arable soil in this country is naturally well charged with iron, and the addition of so small a quantity more as would be contained in even the heaviest dressing of basic slag would be only a merest trifle; in all the experiments that have been made with the phosphate, there has not been the slightest evidence of harm resulting from its use.

The great demand for this fertilizer in Germany is the result of the large number of favorable results that have been obtained with it in field experiments, and in ordinary farm experience. It is not ten years ago that these experiments were begun; and it is easy to see that the results must have been mostly very favorable to the fertilizer, in order to have led to so large a consumption of it in so short a time.

One of the most important results of these experiments has been to show the special fitness of this phosphate on reclaimed bog lands, and on sour soils, and on irrigated meadows, or such as are periodically overflowed. One reason for its good effect on such lands seems to be that a liberal supply of moisture in the soil is needed for its best effect; and that on dry lands, or in dry seasons it is apt to fail. Its effect may appear in the following year, however, so that it will not be lost. In all cases where phosphate is applied in any such form as this, and it fails to yield a profitable return in the first year on account of too great dryness, there is no danger of losing it; it can be depended upon to be on hand for work the next year.

But while this phosphate appears to be particularly adapted for use on such land as that above mentioned, experiments have indicated its usefulness on uplands also. It has been tried with success on every crop that is commonly benefited by phosphoric acid. Compared with superphosphate, equal effects have in general been obtained with about twice as large a dressing; that is, to get with basic slag phosphate the same increase of crop that is obtained with 100 pounds of superphosphate, 200 to 250 pounds of the slag flour must be used; 200 pounds will probably do the work if the flour is very fine.

In the case of careful comparisons made by Wagner, with flour of bone and superphosphate, putting the effect of the superphosphate at 100, that of the slag was fifty-eight and that of the bone only ten — a remarkable result, certainly, considering the esteem that bone flour is usually held in, as a fertilizer. In a series of experiments on ten farms in Norway, comparing slag phosphate with half as large a dose of superphosphate, the average result for two years was in favor of the slag; the crop was barley, and the straw as well as the grain was heavier with the slag.

As to the kind of upland soil that this phosphate does its best work on, the results of experiments differ; this must be regarded as an open question. There may be some predominance in favor of lighter soils for the slag, and of superphosphate for heavier soils, but there is no well established rule in regard to the matter as yet. One good result with clover is reported; and it seems to me that it might be an excellent fertilizer to use with some potash salt, such as the muriate, or else the kainite that is so much used in Germany now, in green manuring with leguminous crops. You may remember that in a previous paper read here I gave an account of the power of these crops, such as clover or lucerne, or peas, to draw their nitrogen from the air, and to make a luxuriant growth, provided that they were well supplied in the soil with all other food except nitrogen, and of their being thus useful as gatherers of this most valuable plant food from the air.

Some of the most favorable results with the slag phosphate have been obtained in England and Scotland, in co-operative trials in the field; they indicate that it can be applied to a variety of crops, with a reasonable expectation of profitable results. There the slag phosphate costs about half as much as the superphosphate, so that about twice as large a dressing can be applied at the same cost; this double dressing contains about twice as much phosphoric acid as would be supplied in the quantity of superphosphate used; thus, a considerably larger residue would be left in the soil for the crops of the next year.

This very matter of the surplus of slowly available phosphate in the soil has, perhaps, a closer relation to the standing fertility of the soil than the supply of any other nutrient. A few analyses that were made in France some years ago, where the degree of the natural fertility of each soil analyzed was well known, seemed to indicate that this fertility was in general greater the higher the per cent of phosphoric acid; and that if one desired to compare several soils as to their fertility by means of a soil analysis in which only one of the plant nutrients should be determined, the safest results would be obtained if the phosphoric acid were that one constituent. These results, if confirmed by further work of the same kind, indicate that the extent of the reserve supply stock of phosphate in the soil has an important bearing on its fertility. And it has been affirmed by more than one writer on this slag phosphate that it is one of the best materials to use for the purpose of stocking the soil with this desirable surplus of phosphate of suitable degree of assimilability. Even 800 pounds to the acre could be applied without harm, and without danger of loss by leaching.

The comparative slowness of its action should not be forgotten in making trials with this phosphate. Not only should twice as many pounds be applied as of a superphosphate, but it should be given a longer time to get started at its work. It could be put on in the fall for use of the crops planted in the spring, or as early in the spring as possible for summer assimilation, and it must be lightly plowed in. The rains that fall upon it, if left on the surface, will not take it into solution and carry it into the soil where the plant rootlets are, as would be the case with nitrates or ammonia salts. This phosphate must be in the soil, where the soil water can act upon it for a little time, before it is fully ready for the feeding of the plant.

Whether the slag phosphate that is made in this country is of the same quality, both as to composition and assimilability, as that made in Europe, I can not say; no analyses of it have been reported, so far as I know, on the basis of which such a comparison can be made. It is important that this question be settled before much is invested in experiments and trials with it. I presume that there is, however, but little difference between the product obtained in Europe and that which is made here.

Now, as to the use the horticulturist can make of this fertilizer I have nothing but suggestions to offer. For most of the crops that he raises it would seem to me that he requires a fertilizer that acts slowly; his berry bushes, his vines and his trees grow slowly, as compared with the crops that the farmer raises, and especially as compared with those of the market gardener. For him a fertilizer that comes somewhat slowly into an assimilable condition is, at least, just as good as one that is all or mostly soluble and assimilable when he applies it; and if the first is cheaper than the second, while supplying for the money invested in it a larger amount of the valuable constituents for which it is bought, than he can get in the second, it is the best manure for him to get.

In the papers that I have read or the talks that I have given, here or at farmers' institutes, on commercial fertilizers, I have advised my hearers to give up such exclusive use of the ordinary superphosphate as is commonly practiced, and to experiment on their soils with their own mixtures of the three plant foods — phosphate, potash and nitrogen compounds — for the reason that the ordinary superphosphate contains all three of these substances; that the cost of the fertilizer is based on the quantity of each of them that it contains; that it may often be the case that a particular soil or crop to which this complete fertilizer is applied does not require some one or another of these foods, and, if so, will yield us no return for it; and that, therefore, all the money paid for the 300 pounds or 200 pounds or more in each ton of the fertilizer bought may be entirely thrown away for the time being.

This slag phosphate is a good material with which to begin to carry out this idea. It contains no other plant food than phosphate, and that exists in it in a very useful form; it is very probable that it would in many cases do its best work not alone, but either with nitrogen compounds or potash, especially as ashes, or both. With a little patience in putting the question two or three times to his soils, or to some special crop, by experiments in the field, any farmer or horticulturist can get satisfactory answers to his questioning, and learn how to feed his crops, less like a mere machine, and more like an intelligent, reasoning man.

Mr. J. S. Woodward asked if there was any danger of the phosphoric acid in the slag going back if an overdose was applied.

Dr. Caldwell.— I judge, from the composition, that it would not change.

Mr. Willard felt grateful for the paper, because it touched upon a subject along the line of which many engaged in fruit culture were studying. Evidently the way is now opening up whereby they would be able to obtain one of the much needed elements in fertilizers so economically that it could be liberally used.

A Visitor.— I experimented with it, pound for pound, with potash, on quince trees last year at Fairport, N. Y., with the result that seventy-five per cent of the crop were very fine. A neighbor, who mulched twice, had seventy-five per cent of unsalable quinces.

Dr. Peter Collier.— We have experimented at Geneva with both the English slag and the Pennsylvania basic slag, but our results were entirely unsatisfactory. In Connecticut they have been very successful, and proved it to be a valuable fertilizer. There is no soluble phosphoric acid in basic slag.

A Member.— What do you mean by soluble phosphoric acid?

Dr. Collier.— We mean that is soluble in water. We have found Pennsylvania slag fully equal to the foreign slag in composition. With our present knowledge of it I would advise using it lightly until its value has been determined. In Germany, England and some parts of this country, it has proved valuable.

In a dry season it will not be found valuable. For spring crops it should be put on in the fall, as it is slow.

Dr. Caldwell.— I agree with the last speaker. We should take hold of it cautiously. These things are all a matter of experiment.

Mr. J. S. Woodward.— Three years ago a couple of boxes of this basic slag were sent to me. I tried it carefully, and I thought very well of it for fruit trees; but the sender asked twenty-three dollars per ton for it, and as I could buy bone flour for the same price I did not order any more of the slag phosphate. It was not near as fine as the bone flour. When it can be obtained at a price low enough then we may be able to use it.

Mr. Chas. A. Green.— We used the Thomas slag on fruit trees last season with favorable results.

ENTOMOLOGY.

By Dr. J. A. LINTNER, New York State Entomologist, Albany, N. Y.

In grateful recognition of the tribute paid by this society to the science of economic entomology, in giving place in its annual convocations, amid so many papers of a high order of excellence, and discussions replete with interest and instruction, to a "Report on Entomology" your committee take pleasure in presenting the following report:

The year has been one of remarkable exemption from insect injuries, as the result, beyond question, of meteorological conditions quite unfavorable to the multiplication of our more common insect pests. This has been particularly noticeable in the very few complaints that have been received of injuries to fruit — certainly one-fifth of the average of preceding years. This, in part, may be ascribed to the better knowledge of methods of dealing with the enemies of fruits, to which our fruit-growers are becoming educated, and to the rapidly growing use of insecticides and spraying instruments.

Certain it is that several of our more noxious insects, which almost annually are the cause of serious injury, did not present themselves in sufficient number to call for active operations against them. Thus, apple trees, for the most part, escaped their usual early spring visitation from the aphis, Aphis mali. The cherry tree aphis, Myzus cerasi, was not prevalent. The orchard tent-caterpillar, Clisiocampa Americana, was far less abundant than in preceding years. Not a single communication came to me relating to the operations of the eye-spotted bud-moth, Tmetocera ocellana, which had been exceedingly destructive in 1891, and a general cause of complaint from orchardists in western New York. The pear Psylla, psylla pyricola, which threatened to extend its destruction of pear trees in the Hudson river valley to other portions of the State, has not during the past season inflicted any appreciable harm.

No very serious attacks have been reported to me upon garden or field crops. No complaint has reached me of injury to grain by the grain aphis, Siphonopora avenoe, although again appearing in Columbia county, nor did the hop-vine aphis, Phorodon humuli, very materially affect the yield of hop yards. The year has further been an exceptional one, in that no new insect pest of marked economic importance has come under my notice, calling for special investigation.

Various Pests of the Year.

Among the insect demonstrations of the year, the following may deserve a few words of notice at the present time.

The fall tent-worm, Hyphantria cunea, has been noticeably abundant in some parts of the State, and northward into Canada.

The green-striped maple-worm, of Dryocampa rubicunda, seldom appears in harmful numbers in New York or in the eastern States, but in Monticello, N. Y., on the grounds of Mr. John D. Lyons, a number of soft maple trees, which had been set out by him a few years ago, were completely defoliated by the caterpillars during the past season. In several of the western States, notably in Kansas, Missouri, and Nebraska, the soft maples planted as shade trees in cities are annually almost stripped of foliage (see Bulletin No. 14, vol. III, 1890, of the Agricultural Experiment Station of Nebraska).

The cabbage caterpillar, of Plusia brassicae, which in the southern States is one of the principal pests with which cabbage growers have to contend, but has never become common in the State of New York (see 2d report on the Insects of New York), has been complained of as giving much trouble in a green-house in Garden City, on Long Island. Rev. Dr. Cox has written of it that "the caterpillar specially affects young parsley, but will also make a continuous meal upon heliotrope, pelargonium, and in fact on almost any green thing."

The canker-worm, Anisopteryx vernata (Peck), was so abundant in some orchards in Monroe county as to have nearly destroyed the foliage. Some orchards in Cooperstown, Otsego county, were so despoiled by the caterpillars as to present the appearance of having been scorched and shrivelled by fire.

The apple-worm of the Codling-moth, Carpocapsa pomonella, was less injurious than usual. An extensive fruit-grower and nurseryman from near Rochester, wrote of it: "Codling-moths in our orchards were almost extinct, it being rather difficult to find an apple showing Codling-moth injury. I can not account for this, as ordinarily they are very abundant."

Severe injuries to potatoes from the white grub, Lachnosterna fusca, were reported from Chautauqua county. Another species of Lachnosterna, viz.: L. tristis, was sent to me from Cambridge, N. Y., by Mr. J. L. Smart, with the statement that it had appeared in large companies in the month of May, in localities in the neighborhood, and had devoured the foliage of trees, showing a preference for that of the sugar maple.

The elm-leaf beetle, Galeruca xanthomelaena, in its northward progress, has not yet been seen in Albany. It was reported as having been abundant in Dutchess county in June.

Injuries to gooseberries on the experimental farm at Geneva, from the operations of one of the larger flea-beetles, was observed during the month of August. Examples received from Dr. Collier showed them to be Systena frontalis (Fabr.) — a species that had not previously been known to attack the foliage of the gooseberry. It will be noticed in my annual report for 1892.

The Colorado potato beetle, Doryphora decemlineata, continues with us — less abundantly in some years than in others, but always in sufficient numbers to call for protection from its destructiveness by the use of Paris green or London purple. Sprinkling or spraying the vines with an arsenite is now quite generally practiced throughout the State, and should not be intermitted even in years of its comparative scarcity, for in such seasons efforts to reduce its numbers are the more effective. During the year it has been reported as causing much damage in Albany and Chautauqua counties, although perhaps not greater than in other counties, where no mention of its injuries were made. In its northern progress this insect has reached Prince Edward Island, in the Gulf of St. Lawrence, north latitude 46 1-2 degrees, and has inflicted serious damage the present year.

The plum curculio, Conotrachelus nenuphar, was quite harmful to plums in Orange county in June.

A small beetle, one of the Curculionidae known as Otiorhynchus ovatus (Linn.), which has been shown by Professor C. M. Weed as injurious to the crown of strawberry plants, and has, judging from its abundance, several other food-plants as yet unknown, appears to be increasing in numbers within our State, from the frequency with which it is reported as entering dwelling-houses. Instances of such occurrences to an annoying degree have been given in some of my reports. In August last, examples of it were sent to me for identification from Moriches, Suffolk county, N. Y., where it was abounding in the residence of the gentleman from whom it was received. In Insect Life, for September, 1892, Dr. Riley records it from beneath carpets in many houses in Michigan, and gives interesting notes on its habits.

The asparagus beetle, Crioceris asparagi, has made its appearance in Rochester. At the meeting of the Association of Economic Entomologists, held in this city in August last, examples of beetles were brought in by a young collector, which proved to be this pernicious insect. Although it had been observed at Geneva, N. Y., three or four years ago, I had not heard of its having been reported from Monroe county. Later in the month, Mr. George T. Conover, a horticulturist at Geneva, wrote me that the insect was very destructive to the asparagus beds of Mr. John Charlton, florist and nurseryman of Rochester. Mr. Charlton had used every means known to him, and sprayed with different insecticides, including Paris green, but had not succeeded in relieving himself from the pest, which was still abundant with him. In its northern progress this beetle has reached Nashua, in New Hampshire.

Passing from these general notes, may I ask your attention to a more detailed notice of three insect enemies of fruit and forest and shade trees, which are, at the present, subjects of special study, in the hope of discovery of means by which their serious ravages may be arrested.

The Gypsy Moth.

Notwithstanding the many insect pests of the first rank that are preying upon and devouring the products of the orchards, vineyards, nurseries, gardens, fields and forests of the State of New York, it is a cause of thankfulness that another insect pest which the people of an adjoining State have been for the past two years, under liberal State aid, endeavoring to exterminate, has not yet entered within our borders. I refer to the Gypsy Moth, Ocneria dispar (Linn.), which was accidentally introduced into Massachusetts about the year 1869, by a gentleman interested in the rearing of silk-worms.

When first brought to notice in 1889 by Professor Fernald, of the Massachusetts State Agricultural College, as a dangerous public enemy, it was believed to be confined to a single locality in the town of Medford, less than a square mile in area. It had at that time, according to Professor Fernald, "multiplied to such an extent as to cause the entire destruction of the fruit crop and also to defoliate the shade trees in the infested region." The imperative necessity of its arrest, and the probability that it might be exterminated if proper means were promptly brought to bear upon it, urged by Professor Fernald, led to an appropriation by the Legislature, in March, 1890, of $25,000, for the accomplishment of the desirable end, and the appointment by the governor of three commissioners to conduct the work. An additional appropriation of an equal amount was made later in the year.

The commissioners, in entering upon their labors, found that the moth, instead of being confined to the narrow limits above named, had already invaded various parts of a territory four miles long by sixteen broad. Active measures were carried on by the commissioners during the season of 1890, yet at its close they reported the insect in seven different towns over an area of fifty square miles. Many acres of brush had been burned over, and 70,000 trees had been sprayed with Paris green and water, in which about two tons of the Paris green was used.*

The following year, in lieu of the commissioners, the work was placed in the hands of the State Board of Agriculture, and by them intrusted to a Gypsy moth committee of three carefully selected persons. The magnitude of the work becoming apparent, another appropriation was made by the Legislature in June of 1891, of $50,000 — making the aggregate of appropriations thus far $100,000.

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*Up to the present time, three and a half tons of Paris green has been used.

It appears, from a special report on the subject recently made by the State Board of Agriculture, that their committee have conducted their work during the past year (i. e., in 1891), with energy, with judgment and with all the success that could have been expected. Some of the measures used by them for the control of the insect, were the following: Spraying trees with Paris green in water; spraying the caterpillars with insecticides that kill by contact; spraying infested stonewalls with kerosene and firing it; gathering the egg-clusters and burning them; banding the trees with tarred paper to prevent the ascent of the caterpillars, and with burlaps for a hiding place where they could easily be destroyed; burning brush and infested shrubbery after kerosening it; burning out nests in holes of trees and cementing them; inspecting all vehicles going out of the infested territory for the caterpillars.

The extent of the work done will more fully appear from the following statement published by the committee, covering operations from April 1, 1891, to December 31, 1891:

Trees:	
Number inspected	3,591,981
Number infested	213,828
Number cleaned of eggs	212,432
Number sprayed	177,415
Number cemented	19,296
Number burlapped	68,720
Number banded	12,000
Buildings:	
Number inspected	87,536
Number infested	3,647
Number cleaned of eggs	3,574

What is regarded as a conservative estimate, based on the daily reports made to the committee, shows the aggregate number of egg-clusters destroyed during the first six weeks of the season to be 757,760. Their bulk, according to Director Forbush, was nearly eight cart-loads. The average number of eggs in a cluster being 468, there were over 353,000,000 of eggs destroyed during that time. The largest number of men employed at any one time was 242.

At the close of the year 1891, covered by the report referred to, the insect was known in twenty-six towns in Massachusetts, over an area of 200 square miles. No instance of its occurrence outside of the State of Massachusetts had been authenticated.

Through the kindness of Professor Forbush, director of the field work of the Gypsy moth committee, in sending me for use on this occasion a type-written copy of his address before the State Board of Agriculture, in December last, I am able to make extracts therefrom relating to the operations of last year (1892).

The appropriation made by the Legislature to the State Board of Agriculture for the prosecution of the work in 1892 was $75,000. Operations were conducted much in the same manner as in the preceding year, but after thoroughly testing the principal means of control utilized in this country and in Europe, for this and similar insects, they proved to be inadequate, and new measures were experimented with, and employed when their value became established.

Thus it was found that arsenical spraying, upon which much dependence had been placed, failed to kill the larger and more vigorous larvae. Insecticides that kill by contact were therefore resorted to; the eggs were killed by an oil not previously used to any extent for insect destruction; and four tons of "insect lime" known as "raupenleim" in Germany, was imported from Europe and applied in a band on the bark around the tree; its viscidity — lasting for two months — served an admirable purpose in catching and holding all insects, and effectually preventing their ascent of the tree.

The banding with burlaps was not only successful in entrapping large numbers of the ocneria caterpillars, but also hosts of other injurious species, which could then be conveniently destroyed.

Gratifying success is reported from spraying infested brush and shrubbery on waste lands with kerosene from a cyclone nozzle, and then igniting it. The same method, it was thought, might be effective against the marches and invasions of the army-worm.

It is claimed by the committee that they have succeeded the past year in staying the spread of the insect, and in greatly reducing its numbers. Fifty towns were thoroughly searched, and the moth found in thirty. In some of the towns it has been locally exterminated, and in three, entirely destroyed. Not one egg cluster can now be found as against a hundred in 1891. If sufficient means are provided for the work, extermination of the insect within a few years is regarded as next to certain. With an annual appropriation of $50,000, it is confidently believed by the committee that further spread can be prevented and the insect steadily reduced in numbers.

From my present knowledge of the work of the committee, I must commend it heartily, and would further express the desire that such appropriations shall continue to be made by the State as will enable the committee so to reduce the number of the insect that it may soon be handed over to its parasites, predaceous insects, and birds for complete extermination.

If I have seemed to you to have dwelt too long upon a single insect pest, please bear in mind the deep interest which we in New York must feel in the efforts being made for the extermination of this omnivorous insect before it shall have entered within our borders. In this interest, each one of the other States should also share. And then again, if success shall, as we hope, attend this effort, it can not fail of furnishing a precedent for calling for State aid and possibly upon the national government, from time to time, for prevention of the spread of some other newly introduced noxious pest, by stamping it out at its place of introduction — quite as much within their province as is protection from an invading army of soldiery, or from the fearful pestilence. How insignificant were the losses inflicted by the Hessian soldiers, compared to those which have resulted from the bringing hither of the Hessian fly.

A Destructive Shade Tree Pest.

A destructive borer of some of our most highly prized shade trees, as the elm and maple, has within the last five years been brought to notice in northern New Jersey, and in New York city and its immediate vicinity.

It is the larva of a rather large Bombycid moth, bearing the name of Zeuzera pyrina (Fabr.), closely allied in its habits and character to our long-known borer of the locust, oak, and willow — Cossus robiniae. In Europe it has long been known as Zeuzera aesculi (Linn.) — the specific name referring to the horse-chestnut on which it was probably first observed, although, according to Kollar, "choosing that tree for its abode less frequently, in the neighborhood of Vienna, than any of the other trees that serve it for food, living chiefly in elms, walnut, pear and apple trees."

The first example of it, so far as known, taken in this country (it is another of our introduced European pests), was found in a spider's web at Hoboken, N. J., in June, 1881 (Papilio, ii, 1882, p. 34).

Several examples of it were captured by collectors at electric lights in the summer of 1887, at Newark, N. J. The following year nearly fifty specimens were taken at Newark, also at electric lights. In 1889, it was found at Arlington and at Orange in New Jersey, and also, according to Mr. Pike (Insect Life, iv, p. 318), in Brooklyn, N. Y., where it had attacked "nearly all the trees, mostly maples, from Carlton avenue to the entrance of Prospect park." In June of 1890, it was reported as girdling and boring young maple trees within a few inches of the ground, at Riverside park, New York, causing them to break and blow over with the wind; it had also attacked the elms and maples in Prospect park, Brooklyn, and along the whole length of the eastern boulevard. The following year (1891) it had so multiplied in New York city that, according to Mr. Southwick, the entomologist of Central park, more than twenty species of trees and shrubs had been attacked by it, and even vines, as Wistaria, had not escaped its polyphagous habit; thus far, evergreens and other strongly odorous trees, as sassafras and ailanthus, seemed to be exempt from its ravages. Two men were constantly employed during the month of May in collecting and destroying the larvae that were taken out of the limbs that had broken off as the result of their burrowings. After every high wind, wagon loads of branches were gathered from the ground and burned. It was being combatted by every possible means, not only by burning the falling limbs, but by removing from the trees those that from their changing color or withering gave indications of infestation, and also, in the case of the rarer trees, searching for an opening to burrows and injecting therein the powerful insecticide, bisulphide of carbon.

The same year it had extended its operations all over the city of Brooklyn — not an avenue or street therein but gave abundant evidence of its presence. It had also spread, according to Mr. Pike (loc. cit.), to Astoria, New Rochelle, Jamaica, New Lots and Flatbush, on Long Island.

The injuries caused by this borer are quite serious. In young maples it attacks the trunk near the ground, as already stated, and so weakens it with its large burrows running around the tree as to cause it to break with the wind and fall to the ground. In the elms, different species of which it attacks, its operations, so far as observed, are confined to the limbs and branches, which are so weakened by the burrows of often a half inch or more in breadth that they fall from their own weight or even with a moderate wind — the branches thus broken ranging from a half inch in diameter to more than five inches.

Already many of the larger elms in Central park have had their symmetry and natural beauty greatly impaired through this Zeuzera attack. We are not told that any have been killed, but such a result might follow should the insect become sufficiently numerous to invade the entire tree.

We do not know that any better methods can be used to arrest this increase than those that are employed at the present at Central park, unless some means may be devised for destroying the eggs of the moth before the hatching of the larvae and their entrance into the tree.

An Elm Tree Bark-borer.

The preceding attack, as yet, is quite local in our State, yet destined, we fear, not long to continue so. Throughout the entire State, and beyond its limits, the beautiful white elm, Ulmus Americana, which has been so liberally planted and so highly prized as our most valuable shade tree, is suffering from the ravages of a hidden and insidious enemy, and dying one by one, from a cause, not apparent, and known to but a few. This is chargeable to the operations of one of our longicorn beetles, named Saperda tridentata, Olivier, the larvae or grubs of which work in the inner bark and sap-wood of the trunk — the attack apparently commencing not far above the ground and gradually extending upward. When the grubs are numerous, their broad, flat burrows so reticulate and run into one another as effectually to girdle trunks of two to three feet in diameter, when, with the circulation arrested, the death of the tree inevitably follows. No effective remedy against this attack has as yet been found. It is probable, however, that where it has not proceeded too far, protection may be attained in coating the bark with some thick repellant substance (of which carbolic acid and Paris green should be components) that would repel egg-deposits or prevent the passage through it of the newly hatched larva. This coating would not need to be applied to the entire trunk, but might be limited to a broad zone of several feet, at and beyond that part where the burrows of the preceding year were mainly run — to be found by removing portions of the bark, which will readily scale off from the deserted older-infested portions.

A still better remedy, I think, would be the following: Remove the outer bark from the entire infested portion of the tree in the spring (occupied at the time by the larvae or the pupae) by shaving it down to the inner bark until the first indications of the fresh burrows are disclosed. A kerosene emulsion of good strength brushed over the shaven surface would kill the insects, after which a coating of some thick substance, as lime and cow-dung, should be applied to prevent the splitting of the sap-wood from exposure to the sun, drying winds, or extreme weather.

That the barking of elms to even a greater extent than the above may safely be resorted to, appears from experiments made in France by M. Robert, detailed in the Gardeners' Chronicle and Agricultural Gazette for April 29, 1848, and quoted by Dr. Packard in his recent report on "Insects Injurious to Forest and Shade Trees (1890), as follows:

"The whole of the outer bark was removed from the elm (this may be done conveniently by a scraping-knife shaped like a spoke-shave). This operation caused a great flow of sap in the inner lining of the bark (the liber) and the grubs of the Scolytus beetle were found in almost all cases to perish shortly after. The treatment was applied on a large scale, and the barked trees were found, after examination by the commissioners at two different periods, to be in more vigorous health than the neighboring ones of which the bark was untouched. More than 2,000 elms were thus treated."

M. Robert had also obtained good results from cutting out strips of the bark of old elms of about two inches wide, from the boughs down to the ground. "It was found that where the young bark pressed forward to heal the wound and a vigorous flow of sap took place, many of the larvae near it were killed, the bark that had not been entirely undermined was consolidated, and the health of the tree improved."

For a long period of years the elm had been remarkably free from insect attack, but now it is struggling for existence against four insect destroyers, so pernicious in their operations that we are almost compelled to look upon it as a doomed tree. The Zeuzera is robbing it of its beautifully branching top; the elm-leaf beetle is defoliating it and rendering it in midsummer useless for shade; the caterpillars of the white-marked tussock-moth (Orgya leucostigma) are skeletonizing its leaves and arresting terminal growth by amputating the ends of the twigs and strewing them over the ground; and lastly, the three-toothed Saperda—the most dangerous of all—is running its mines through sap-wood and fiber so closely and tortuously that the death of the tree is the inevitable result.

It is sincerely to be hoped that should the suggestions above made for staying the ravages of the last named insect not prove to be practicable, other means may be found, so efficient and so simple as to lead to their general use by individuals and by city authorities; and that the steady progress northward and westward over the State of the two other elm destroyers — the Zeuzera borer and the elm-leaf beetle — may be stayed, and the most beautiful and serviceable of our shade trees be spared to us and to coming generations.

Experiment Station Publications.

The work of the experiment stations during the past year has developed results which are of considerable value to the members of this society. I will briefly refer to a few of the studies, citing the bulletins where they are more fully detailed, in order that those who so desire may make application for them to the several stations, and procure copies before the editions shall be exhausted.

The Pear Tree Psylla.— Mention has been made of the remarkable cessation of the injuries during the past year of the pear tree Psylla in the Hudson River valley. This insect is not confined to the eastern part of the State of New York and portions of the eastern States adjoining, but it also occurs in central and western New York, not as yet in great abundance, but the pear orchards are at any time liable to an outbreak of it.

A careful study of the insect has been made at Cornell University by Mr. M. V. Slingerland, and its results published in an illustrated bulletin of twenty-eight pages, being bulletin 44, October, 1892, of the University Agricultural Experiment Station. Its life-history has been worked out, and the remedies available for its destruction are given. Of the various remedies experimented with, the most efficient was found to be kerosene emulsion sprayed upon the insect while in its larval stage before acquiring wings. A single spraying with the standard emulsion reduced with twenty-five parts of water (less than three per cent of kerosene) killed, as estimated, from seventy-five to ninety per cent of the larvae. The early spring, just after the leaves had expanded, proved to be the best time for spraying. In the experiments made, the unexpected result was obtained that the freely exposed eggs of the Psylla were not to be killed by spraying with undiluted kerosene, or even by immersing them in the liquid.

Insects Injurious to the Blackberry.— In special bulletin N., of the New Jersey Agricultural Experiment Station, November 30, 1891, Professor J. B. Smith, entomologist, has given popular descriptions accompanied with illustrations, of the more destructive blackberry insects, with suggestions regarding the remedies to be used against them.

Insects injurious to young fruit trees.— The entomologist of the Oregon Agricultural Experiment Station, in Bulletin No. 18, for March, 1892, has given popular accounts with suggestions as to remedies, for a large number of the insect enemies of young fruit trees.

The grapevine leaf-hopper.— Mr. Townsend, the entomologist of the New Mexico Agricultural Experiment Station,, in writing of this insect, often referred to as "the thrips," states: For some time after the hatching of the eggs, the minute young are to be found mostly on the lower, older leaves. Kerosene emulsion has been conclusively proven as the only practical remedy for them. It should be diluted with fifteen times its volume of cold water and applied as soon as the young hoppers appear, thoroughly reaching with the spray the under side of all the leaves, especially the lower ones. If deferred until they have acquired wings, it would be too late to attempt to destroy them in this manner. Vineyards sprayed only once the past season with the emulsion as above directed showed thereafter not enough hoppers to do any injury for the remainder of the season, the same vines having been very plentifully infested before the application. (Bulletin No. 5, March, 1892, New Mexico Agricultural Experiment Station.)

It is strange, when this insect can be so easily destroyed, that there should appear every year in the Vineyardist and other papers so many complaints of severe injuries sustained from it.

The strawberry weevil.—Mr. M. H. Beckwith, of the Delaware Agricultural Experiment Station, in Bulletin No. 18, for September, 1892, has written of this weevil, anthonomus musculus, which works in the buds and blossoms of the perfect flowering varieties, its larvae penetrating the center of the blossom (the ovary or the rudimentary berry) and thereby blasting the berry. Kerosene emulsion and powdered hellebore in water are recommended for use against it.*

A new strawberry slug.—Professor Herbert Osborn, of the Iowa Experiment Station, reports successful experiments in killing the green strawberry slug, monostegia ignota (Norton), which in the early part of June had extensively eaten the leaves of a strawberry patch on the station grounds. They were thoroughly sprayed with one pound of London purple to 200 gallons of water. The fruit was partially grown at the time. Further injury ceased within two or three days, and the slugs were killed, as shown by the presence of their dead bodies. Two and one-half gallons of the spray, containing about forty grains of arsenic, had been applied to a patch of nearly one square rod. Estimating that the fruit—about six quarts—had received one-tenth of the spray distributed, or about four grains, and that one-half of the amount of the spray would have been equally effectual, and accepting two grains of arsenic as a dangerous dose, it appears from these data that upwards of twelve quarts of the ripe fruit would have to be eaten to give a fatal dose of the arsenic. (Bulletin No. 18, Iowa Agricultural Experiment Station, August, 1892.)

Protection from the cabbage-maggot.—In the eighth annual report of the Wisconsin Agricultural Experiment Station for the year 1891, Professor E. S. Goff has presented very successful results in protecting cabbage and cauliflower plants from the attack of the cabbage-fly, by surrounding the stalk of the plants at their setting with small hexagonal discs of tarred paper, rapidly cut from sheets by means of a tool devised for the purpose. It seems to be the most successful method yet discovered for protection against this most annoying pest of truck-farmers and gardeners, which often destroys entire crops of early cabbages and cauliflowers. For details of the method, the report cited may be referred to, or an article contributed by me to the issue of Gardening for February 1, 1893.

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* This insect has recently been shown to be the Anthonomos signatus of Say. See Insect Life v. January, 1893, pp. 167-186, for an extended account of it, with illustrations, by Mr. F. H. Chittenden.

Kerosene for the aphis.— Professor Goff has also experimented with kerosene emulsions for destroying the eggs of the aphis infesting apple and plum, during the winter while there were no leaves to interfere with the distribution of the insecticide. The experiments were not successful, for although emulsions of the strength of twenty, twenty-five and thirty per cent were used, it was subsequently found that the sprayings had failed to destroy the eggs. Full success, however, was attained by a spraying of emulsion containing thirteen per cent of kerosene, on April twenty-fourth, just as the buds of the apple were beginning to burst. The aphides were hatching from the eggs at this time, and they were almost entirely destroyed. This, therefore, may be accepted as the most vulnerable period in the life of the insect. (See the report above cited.)

Soapsuds for the cabbage aphis.— Kerosene emulsion has been recommended for killing the plant-lice that often congregate in immense numbers on the leaves of cabbage, but if the emulsion is used of the proper strength to kill the insect, it also imparts a permanent flavor of kerosene to the plant. In trials made at the South Dakota station of various insecticides, strong coapsuds gave better satisfaction than any other remedy and proved highly efficacious. While most fluid applications were found to roll off from the aphides without wetting them, the soap solution readily penetrated the gray powdery subsance which covers their body, and killed them. (South Dakota Agricultural Experiment Station, Bulletin No. 30, March, 1892.)

Plant-lice and red spiders on rose bushes.— Professor C. H. Fernald of the Hatch (Massachusetts) agricultural experiment station, reports that potted rosebushes of different varieties, every twig of which was literally covered with the aphides, and more or less the surface of the leaves, and also having the red spider exceedingly numerous on the leaves, were inserted and held for about a quarter of a minute in a pailful of kerosene emulsion, with this result: Two days thereafter, examination of the bushes failed to show a single living plant-louse or red spider, and none appeared on them for the rest of the season.

Spraying and Insecticides.

A few notes on what is being done in spraying for insect pests, and on some new insecticides, may not be out of place at this time.

Experiments with Paris green on tent caterpillars.—Professor Fernald reports that with one pound of Paris green to 1,000 gallons of water, all the caterpillars placed on the leaves died within twelve days. One pound to 150 gallons of water burned the foliage and injured the tree considerably. The best preparation for use on apple trees appeared to be, one pound of Paris green to 200, 250 or 300 gallons of water; even the last-named strength killed all the caterpilars within two days; with a dilution of 400 gallons, all were dead in three days.

Paris green on the gypsy moth caterpillar.—That Paris green has failed to give entire success in killing the Ocneria caterpillars is the statement made in the report of the gypsy moth committee. The mixture used by them would seem to be an excellent one, viz.: One pound to 150 gallons of water and two quarts of glucose. The glucose held the poison on the leaves during hard showers, and proved to be a useful addition, and preferable to any other substance tried for prolonging the effects of the arsenite. Yet this, they state, while destroying the young caterpillars, failed to kill those that were nearly mature. A grove of trees that was twice sprayed with a strength of one pound to 100 gallons of water was afterwards entirely stripped of leaves. Although many of the caterpillars were killed, there were afterwards gathered from under the same trees over 1,100 living pupae of Ocneira. The Paris green used was several times analyzed and found to be fully equal to any in the market.

It is difficult to believe that foliage sprayed with a strong mixture of Paris green will not kill all caterpilars that feed freely upon it, and the statement above made needs confirmation. It is not impossible that "the nearly mature caterpillars which were not killed, may have fully matured and ceased feeding preparatory to their pupation, or the observations may have been during the two or three days of cessation from food that may precede the last of the larval moltings.

Spraying for the codling moth.— The following is quoted from the American Cultivator of January 2, 1892: A careful examination was made of two trays of unassorted apples, each containing 100 specimens, the fruit in one tray being taken from a sprayed tree and the other from an unsprayed one adjoining. The apples were divided into three grades, No. 1 being perfect apples, No. 2 having one or two blemishes, and No. 3 being almost worthless. In the tray from the unsprayed tree, there were four perfect apples, fifty-eight second class, and thirty-eight culls, while the tray filled from the sprayed tree contained eighty-four first class, nine second class, and seven culls. (Insect Life, iv, 1892, p. 288.)

E. G. Lodeman reports, in the Cornell bulletin 48, signal results in spraying for codling moth in the very wet season of 1892.

Spraying for the plum curculio.— Reports from a number of fruit growers in Ohio indicate that spraying with Paris green is considered an effective remedy for the plum curculio. It is thought that two ounces of the green to fifty gallons of water is sufficient, if three or four applications are made during the season; and that the use of the dilute Bordeaux mixture in connection with the insecticide will prevent injury to the foliage. The mixture of fungicides and insecticides was also used with beneficial effects on pear trees attacked by the curculio. (Abstract in Experiment Station Record, from Ohio station, bulletin No. 9, vol. iv, December, 1891.)

From an address made by W. J. Green, before the Ohio State Horticultural Society at its last meeting and reported in the Country Gentleman of January 12, 1893, it appears that while the effectiveness of arsenical spraying for the curculio is conceded, it cannot be done with sufficient frequency during the long period of the curculio's presence — from May to August — without injuring the foliage and causing the leaves to fall. A large degree of protection, however, to the foliage may be secured by using a dilute Bordeaux mixture with the Paris green. The following is the formula given: Lime, four pounds; sulphate of copper, four pounds; Paris green, four ounces; water, fifty gallons. This mixture was found satisfactory for European plums, but damaged the American varieties. With the Paris green reduced to two ounces, very little harm resulted, but it was questioned if this proportion of the arsenite would prove effective against the curculio.

A new contact insecticide.— The gypsy moth committee in Massachusetts have found by experiment that the soap powders, such as "Gold Dust" and "Babbitt's Continental Washing Powder," are deadly to caterpillars when properly applied, and were efficient in killing both the caterpillars and the pupae of the Ocneria. Babbitt's 1776 soap powder was used in the proportion of one pound to six gallons of water, the powder being first dissolved in a little warm water, and sprayed upon the congregated caterpillars until they were well soaked with the liquid. It was thought that the "Gold Dust" gave the most uniform and satisfactory results. Unfortunately, "these solutions cannot be used for spraying tender plants, as they injure the foliage. They can be used only on insects that cluster about the trunks of trees or smaller objects." (Forbush.)

Creosote oil as an insecticide.— For killing the eggs of the gypsy moth, the committee found that creosote oil, applied to the clusters by means of a brush so as to saturate them, penetrated and killed the eggs at once. The oil is made by the Carolina Oil and Creosote Company, at Wilmington, North Carolina, and is sold at fifteen cents a gallon by the barrel.

Experiments should be made to test the efficacy of this soil on the apple bark and other scale insects, and on the eggs of such insects as have failed to be killed by applications of kerosene, as those of the pear tree Psylla, the squash vine borer (Melittea curcubitae), and the squash bug (Anasa tristis).

A cheap insecticide.— The assistant chemist, B. W. Kilgore, of the North Carolina experiment station, has proposed the following cheap arsenite for spraying fruit trees: A mixture of one pound of the commercial white arsenic and two pounds of lime, boiled together for half an hour in two to five gallons of water, and then diluting it to about 100 gallons of water. The mixture prepared as above contains absolutely no soluble arsenic, and it was clearly shown that the "burning" or "scorching" of leaves is due entirely to the soluble arsenic present, and is in direct proportion to its amount.

Arsenites with Bordeaux mixture.—Mr. Kilgore also reports: "Practical tests of the effect upon foliage of combinations of Paris green and London purple, each with Bordeaux mixture, were made. These combinations contained one pound of Paris green, and one pound of London purple, separately, in 150 gallons of Bordeaux mixture, and applied to fig, grape, mulberry, blackberry, peach, pear and apple leaves. Each mixture was tested for soluble arsenic, but none was found in any case. Nor did the slightest injury result to any of the leaves from these combinations. Some experiments were also made with combinations containing one pound of the arsenites to 100 gallons of Bordeaux mixture, with the same results as the above. Both theory and practice show these combinations to be perfectly harmless to foliage, and that they may be used with freedom."

These results are accompanied with elaborate tables, on which they are based. The use of lime for neutralizing the injurious effects of the arsenites is in accord with the publications of Professor Gillette, in Bulletin No. 10 of the Iowa Agricultural Experiment Station. Professor Kilgore's experiments were made in July, 1890, but their publication was delayed until a year thereafter. (See Technical Bulletin No. 2, of the North Carolina Agricultural Experiment Station, Raleigh, July 1, 1891.)

E. G. Lodeman, of the Cornell (N. Y.) Station (Bulletin 48), has found excellent results to follow the combination of Paris green and Bordeaux mixture for spraying apple trees to combat codling moth and apple-scab. His conclusions upon this point are as follows:

"When Paris green was added to the Bordeaux mixture, the fungicidal action of the combination was more marked than when London purple was used in place of Paris green.

"Paris green has a certain fungicidal value, but in this respect it does not nearly equal the Bordeaux mixture.

"The value of Paris green as an insecticide does not appear to be materially affected, whether it is applied alone or in combination with the Bordeaux mixture.

"The insecticidal value of Paris green when used with the Bordeaux mixture was greater than that of London purple when similarly applied."

Farmer's Bulletin on Spraying.— A serviceable bulletin for the use of fruit-growers is one published in 1892 by the United States Department of Agriculture, entitled "Farmer's Bulletin No. 7. Spraying Fruits for Insect Pests and Fungous Diseases," twenty pages.

It discusses spraying with kerosene emulsion and the arsenites for insect pests, and spraying from the hygienic standpoint. Spraying for fungous diseases of the apple, pear and other fruits. Does it pay to spray? The fungicides used in spraying. How and when to spray. Treatment of scab, powdery mildew, the leaf-blights, black-rot of the grape and anthracnose. Use of copper compounds from a hygienic standpoint.

This is perhaps the most convenient and reliable bulletin on spraying that has as yet been prepared and copies may probably be obtained by addressing the Department of Agriculture at Washington.

Bulletins on spraying and insecticides.— Several bulletins upon these subjects have been published during the year 1892 and the preceding one, which would be found of service to fruit-growers, florists, nurserymen and others. Among them are the following:

Information on spraying fruits. Pennsylvania State College Agr. Exp. Station, Bulletin No. 19, April, 1892.

Insecticides and fungicides. Michigan Agr. Exp. Sta., Agricultural College, Bulletin No. 83, April, 1892.

The spraying of orchards. Ohio Agr. Exp. Sta., Wooster, vol. iv., No. 9, December, 1891.

Experiments with fungicides and insecticides. Hatch Exp. Sta., Amherst, Mass., Bulletin No. 17, April, 1892. Eleven plates.

Injurious insects and insecticides; spraying machinery. Delaware College Agr. Exp. Sta., Newark, Bulletin No. 12, March, 1891.

Kerosene emulsion. Michigan Agr. Exp. Sta., Bulletin No. 76, Ocober, 1891.

Spraying for insect and fungous pests of the orchard and vineyard. New Jersey Agricultural College Exp. Sta., New Brunswick, Bulletin No. 86, April 4, 1892.

Spraying apple orchards in a wet season. Cornell University Exp. Sta., Ithaca, N. Y., Bulletin No. 48, December, 1892.

Bounties For Insect Pests.

Garden and Forest, for December 21, 1892, records an interesting "Campaign against the Tent-caterpillar." The apple-tree tent caterpillar has for several years past been an almost unendurable nuisance in various parts of Massachusetts, particularly in the vicinity of Boston. Entire trees and shrubs are completely stripped of their leaves, converting the fresh spring foliage into a painful and depressing scene, and robbing walks and drives of their natural rural beauty.

In order to arrest or mitigate, if possible, this evil, the Newton Horticultural Society and the Newton Center Improvement Association prepared and widely distributed a circular illustrating the insect in its several stages, giving a full description of its eggs, and offering prizes for the collection of the egg-belts, to be brought to the horticultural society before April first. As the result seventy-five dollars were distributed in prizes and gratuities among the competitors, the first prize of fifteen dollars being given to a young lad who presented over 15,000 belts.

The above effort having effected the destruction, as estimated, of 25,000,000 of eggs during the year, the society is encouraged to offer for the following year a reward of one dollar for every thousand belts brought in, and has invited contributions, that the work may be successfully carried on.

I would heartily recommend this method for localities in New York where the tent caterpillar has become unusually abundant. Could other of our wide-spread insect pests be controlled by similar means, it would be a wise economy to employ children in the work by the payment of suitable rewards. Unfortunately few insects offer so vulnerable a point of attack as does the apple-tree tent-caterpillar, in its shining egg-belt on a leafless tree. In cities and villages where the white-marked tussock-moth, Orgyia leucostigma, frequently strips the elms and horse chestnuts of their foliage, the devastation for another year could be stayed by offering a certain sum per 1,000, or by weight or measure, for the egg deposit of the moth on its cocoon -- so conspicuous in their snowy whiteness on the trunks and lower branches of trees, and beneath window-sills and copings, during the months of August and September, or before they have become dingy from weathering.

In conclusion, I feel that I owe an apology for the length of my report, and I accordingly offer this: Your president and a number of individual members of the society have from time to time manifested to me so deep an interest in entomological studies as directly bearing upon their pursuits and labors, that I have presumed upon a patient listening to whatever I had to present. The report certainly would have been much more brief had it been prepared for any other body than for the intelligent and appreciative membership of this society, before whom I am always glad to appear and offer my humble tribute.

Respectfully submitted on behalf of the committee of entomology.

J. A. LINTNER,

Chairman.

FOREIGN FRUITS.

By GEO. ELLWANGER, Rochester, N. Y.

Your committee on foreign fruits report that after several years' trial the following varieties of pears, etc., have proved worthy of general cultivation:

Auguste Mignard.— Resembles somewhat Louise Bonne in shape and color, yellow with dull red cheek on sunny side. Flesh vinous, very juicy and agreeable. Ripe November. A valuable variety.

Triomphe de Vienna.— Fruit medium size, obtuse pyriform, surface smooth, yellow covered with light russet, flesh white, fine grained, melting, sweet. Quality very good. One of the best new pears. Ripe September.

Olivier de Serres.— A valuable late-keeping winter pear, ripening about same time as the Josephine de Malines; the fruit is of good size, flesh is tender, juicy and melting and flavor excellent; quality very good to best. Ripe February to March.

Bon Chretien Fred Baudry.— A large, handsome, fine-flavored, late winter pear; size medium to large, color yellow with blotches of russet; flesh yellow, tender, buttery and juicy; flavor very good to best, rich, sweet and distinct; ripens a little later than Josephine de Malines. A valuable pear. Ripe February to March.

Princess.— Large size, smooth skin dotted and marbled with russet; stem short; in shape and appearance resembles the Anjou. Flesh fine grained, melting, very juicy, with vinous flavor. Ripe October.

Superlative Raspberry.— Large, conical, very handsome; red; fine flavor, very productive. Canes stout and hardy. By far the most beautiful and valuable red raspberry.

Ornamental Trees and Shrubs.

By JOHN CHARLETON, Rochester. N. Y.

A large or small place, when properly planted with trees and shrubs appropriate to its surroundings, is, when well kept, pleasant to contemplate, with its smooth lawn, bright-flowering or foliage shrubs, and the few large trees which are always indispensable to fill out the picture. Such a place gladdens the eye, inviting repose under the shade of its trees in summer, and usually incites to emulation among neighbors, as well as others, to do likewise.

Of course the size of a place has much to do with the selection of the trees to be used in its planting. For instance, the Lombardy poplar (Populus fastigiata), with its tall spire-like growth, which, when properly used by the landscape gardener, becomes a noted and appropriate object in the landscape, would be entirely unsuited to small places, as well as for urban street planting.

In planting new places the soil, first of all, should be enriched and thoroughly prepared for the purpose. This will insure a good growth. The trees and shrubs should all be selected with reference to their fitness, size and appearance in the future, when they will have attained a good growth and effective size. In laying out and planting large places, the landscape gardener has, from intuition, a wealth of trees and shrubs to draw upon capable of supplying any and all requirements to enable him to plant with success. It would, of course, be superfluous and invidious on the part of your committee to offer any suggestions as to a selection of varieties suitable for his purpose; in fact, these beautifiers of nature sometimes use varieties unsuited to smaller places.

Your committee offer the following varieties as well suited for ornamental planting. We may be, however, repeating a "thrice told tale," when recommending some of these older kinds.

Acer (maple), campestre.— A compact, slow-growing, handsome, ornamental tree. Highly interesting, owing to its branches being covered with a cork-like formation.

A. Wier's cut-leaved — The handsomest of the maple family. Its ample foliage, which is beautifully dissected, gives it a desirable appearance, and commends it for extensive planting.

A. Schwedleri.— Also desirable. It is beautiful in early summer, when its scarlet-crimson shoots and leaves make it very attractive.

Betula (birch), pendula lacinata.— The cut-leaf weeping birch is the handsomest and most desirable of all our deciduous trees, and for effective display is without a peer. Its silvery-white trunk and branches give it a picturesque appearance in winter time, and when in summer its long pendulous branches are swayed by the breeze the effect of its elegant appearance is decidedly charming. Too much can not be said in its praise.

B. fastigiata.—A beautiful, elegant upright grower; distinct and desirable.

B. Young's weeping.— Is perhaps, the finest of all round-headed weeping trees. It deserves to be mentioned in words of praise. When budded on a high stem it forms a lovely weeping head which sweeps the ground in graceful beauty.

Catalpa, syringafolia.— Well worthy of a place on the lawn. It is, when young, of rapid growth, and quite ornamental in appearance. Its large, heart-shaped leaves, and large, long clusters of showy, white fragrant flowers, when in bloom in July, make it very attractive.

Cercis, canadensis, or Judas tree, is a medium-growing, highly desirable, ornamental-flowering tree, with elegant green, heart-shaped foliage. It flowers in early spring, in greatest profusion; its flowers are reddish-purple in color, and are most effective in early morning or evening.

Crataegus (thorn) coccinea. Double crimson thorn. This deserves a place in choicest spots on every lawn. It attains to a small tree in size, with dense foliage, which is entirely covered with double rosette-shaped, crimson flowers in early June. It then presents a unique, lovely appearance.

C. Paul's scarlet.—Brighter in color than the preceding, and is deservedly preferred on this account.

Fagus (beech), incisa.—The cut-leaved beech is a beautiful, desirable tree, of free growth and elegant apparance. It deserves a prominent place, and should be more frequntly found on our lawns.

F. (purple leaf) River's variety.—This is a grand ornamental foliage tree, which is desirable on account of its conspicuous color. Its young growth in spring is of a lovely deep crimson, changing to deep purple in summer. It makes a charming contrast to other trees and should be more generally planted.

Liquidambar (sweet gum), styraciflua.—Deserves to be better known to planters. A native variety, attaining a good-sized, round-headed tree. Its foliage is star-shaped, of a rich glossy-green, turning to the richest shades of purple and crimson in the autumn, when it is prominent in the landscape with its bright-colored foliage.

Liriodenron (tulip tree), tulipifera.—One of the grandest of all deciduous trees. Of tall, pyramidal, symmetrical growth, graceful in habit, with large, glossy pandurate leaves, of a pleasing soft light-green color. It produces lovely green and yellow flowers shaped like tulips, hence—tulip tree. Apart from a little difficulty to transplant, it has no defects we know of.

Magnolia, chinensis.—Small-growing trees, which are very striking and showy when in flower. They all have fine foliage and large tulip-shaped flowers which are produced before the leaves. The best varieties for our purpose are conspicua, flowers large, pure white; Soulangeana with white and purple flowers. Lennei is the most desirable, having very large flowers of a reddish purple, which are very showy and effective. To insure success, Magnolias should only be planted in spring time.

Sorbus (mountain ash), Europeus.—Always a favorite, and is too well known to require much notice. In the fall it presents a grand appearance when covered with its wealth of large clusters of bright berries.

Salisburia (maiden hair tree) adiantifolia.—An elegant tree, of erect, rigid growth, and graceful appearance. Its foliage is thick, of a light, attractive green, shaped like maiden-hair fern. Do not forget to plant a specimen of it.

Tilia (Linden).— Among the lindens are some varieties of rare beauty, well adapted for planting, where variety is required. They are beautiful in wood and foliage, and when in flower are unsurpassed for their intensely rich, sweet perfume.

T. lacinata rubra.— This variety of Linden grows into a beautiful tree with shoots of a bright rose color.

T. rubra, or red-twigged European Linden, is, perhaps, the most desirable. It makes a medium-sized compact tree, and is very distinct, its branches being of a bright deep-red color. A lovely variety.

Kilmarnock weeping willow can be used with effect where low-headed weeping trees are desired. It is well known and very popular.

Russian weeping mulberry, tea's variety, is another fine weeping tree. It is of recent introduction and is fast becoming a favorite.

Ulmus (elm) pendula, or Camperdown elm.— A weeping variety of great worth and beauty. It is budded on a common variety and is of drooping, rigid growth. It makes a conspicuous object on the lawn with its branches drooping to the ground.

Virgilea Lutea.— This is certainly one of our finest medium-growing trees; foliage bright green, and attractive. It flowers in June, almost covering the foliage with its racemes of white, sweet-scented, pea-shaped flowers. It deserves a place in every collection.

For trees for street planting your committee think the following well adapted to the purpose:

Acer (maple) platanoides, or Norway maple.— For street planting this is the greatest favorite. It attains a large size of a stout, compact, vigorous growth, and handsome appearance.

A. rubrum, the scarlet maple, which assumes such brilliant tints of foliage in fall, being the handsomest of autumn foliage trees.

Liriodendron, tulipifera.— One of the handsomest of all shade trees.

Magnolia acuminata, called cucumber tree, from the shape of its seed pods. This is a handsome pyramidal-growing tree, attaining a height of eighty feet. Its large, ample foliage and numerous green and yellow flowers and seed pods make it conspicuous and attractive among other trees.

Ulmus (elm) Americana.— This is, perhaps, thought more of by the amateur planter for shade trees than any other tree. It is of noble appearance with its large, spreading, drooping head, and ample foliage.

U. campestris, English elm, is very distinct from above, and to be recommended. It is of erect, upright, spreading growth, attaining a tree of lofty height and ample proportions truly noble. We especially recommend these two varieties of elms.

In ornamental shrubs, to beautify our grounds, and enhance their effective appearance, your committee offer the following:

Altheas, both double and single flowered; also the variegated variety. They are deserved favorites, trim in growth and free of flower. Flowering late, when nearly all other shrubs are out of bloom, they are very attractive.

Berberis, purpurea.— A perfectly hardy, dense-growing, purple-leaved shrub, producing flowers and fruit in abundance. Very effective either singly or in groups.

Calycanthus, Floridus. Allspice shrub.— Is a great favorite. It has fine foliage and flowers of a dark chocolate color, which are highly fragrant. Its wood also is very aromatic.

Cornus, or dogwood, contains some very ornamental interesting varieties. Floridus flowers early in spring and does not yield to any shrub for beauty when in flower; flowers large, pure white and very showy. Masculus variegata has finely-variegated foliage of green and white. Sanguinea is also a native variety. Its stem in winter, glowing like living fires, makes it desirable for winter ornament. Elegans variegata, of recent introduction, is elegant in its variegation, and should not be omitted at planting time.

Corlus atropurpurea (purple-leaf filbert).— A shrub of rare merit. Its foliage is as dark and attractive as the purple beech, making it highly effective where dark foliage plants are required. It should be extensively used in ornamental planting.

Cydonia (Japan quince) Japonica, is a great favorite with all lovers of fine shrubs. Flowering early in spring, its bright scarlet flowers are very conspicuous.

Deutzia is a valuable genus of flowering shrubs, which are hardy and very ornamental, flowering in the greatest profusion. They make elegant floral hedges. The Pride of Rochester and flore alba plena, are recommended; gracilis is a dwarf-growing variety, producing pure white flowers, which are a good substitute for orange blossoms.

Forsythia (golden bell).— This is the earliest and most attractive of floral shrubs, which is fast becoming a great favorite. Of slender, upright, drooping growth, it has, when in flower, the appearance of a cloud of bright yellow insects hovering all over the plant. The variety Fortunii is the one recommended.

Hydrangea paniculata grandiflora.— This to-day is the most popular shrub in America. It is of easy growth, and its large white flower heads are enormous in size. It being so very showy, no wonder it is so popular.

Kerria (globe flower) Japonica.— Produces continuously during the summer, good-sized, double, deep, golden-yellow flowers, which are attractive and beautiful. It is a grand corsage flower.

Lonicera, Tartarica (upright honeysuckle).-- These fine shrubs should be found in all collections. They are vigorous in growth and are literally covered with small, beautiful flowers when in bloom. They are very suitable to plant for screens and hedges, etc. We recommend the grandiflora and grandiflora-alba as most desirable. The last named is a beautiful object, loaded with its deep crimson fruit in late summer.

Philadelphus (erroneously called Syringa), or more commonly known as Mock Orange.— Is a class of desirable shrubs well-suited to lawn and shrubbery. The most favored kinds are coronarius, or garland syringa, which is a highly fragrant variety Aurea is the golden syringa and should be found in all collections. Its foliage is a soft golden-yellow, which it retains the entire season. Its flowers also are highly fragrant. Variegata, a plant of new introduction, is a charming kind. Its foliage a soft green, heavily margined with silver. It is very beautiful.

Prunus, Japonica, flore plena alba and flore pleno rubra, are among the most desirable shrubs in cultivation. The plants, when in flower, are covered with double white or pink, small rose-like flowers, presenting an elegant, chaste appearance.

P. triloba, more robust in growth; large double pink flowers; also desirable.

P. Pissardii, is a new variety of great merit. Its young shoots in spring are a deep, glowing crimson, changing to dark purple, which it retains the entire season. It should become a great favorite.

Rhodotypus, Kerrioides, a new Japanese shrub as yet but little known. Is, however, quite desirable, with its handsome bright green plicated leaves, and large single pure white flowers; deserving of extended culture.

Rhus, cotinus, better known as purple fringe, and although an old variety, it is to be much recommended. It is elegantly handsome when in flower, presenting a mist-like appearance, the plant being then smothered with its greenish-red gossamer-like cloud of flowers. It should be grown to one seem, or tree-like in shape.

Ribes, Alpinus aurea, a new introduction of flowering currant. Of dwarf habit. A unique gem of green and gold, a bric-a-brac among shrubs.

Sambucus, aurea, is such a valuable golden variety it should not be overlooked. Its foliage, a soft golden-yellow, is retained until fall. In rows it can be seen a great distance, its color being so distinct and bright.

Spireas are elegant and useful flowering plants, among which are some desirable kinds yielding to no other class in the profusion of their flowers. Bumalda is a lovely variety of dwarf vigorous growth, producing a profusion of rose-colored flowers the entire season. New and quite distinct. Opulifolia, a golden-leaved, ornamental, desirable, strong growing variety. Prunifolia, most distinct and desirable. It blooms before its foliage appears, its slender shoots being studded their entire length, with small, daisy-like, pure white flowers; recommended. Van Houtte.— This we justly consider the finest Spirea. It forms long garlands of beautiful, white flowers of great beauty. A lovely variety.

Syringa (lilac).— In the older varieties it is well known to all. There are, however, many fine, new varieties not yet much known, a few of which deserve notice. Among them Lemoine's New Double attracts attention; a strong grower with heads of double purple flowers. Marie Legraye is the best white-flowered variety extant. Its florets are large, pure white, and the plant is very floriferous. It is also a grand variety for winter forcing. Ludwig Spath, a striking, distinct new kind, color dark purplish-red. The best dark-colored lilac. Japonica, a grand new species from Japan. It grows into a good-sized tree forty feet high, producing thyrsus of flower heads fifteen inches in length; color pure white; is considered a great acquisition. Villosum, another distinct, new species, with very stout shoots, and large, showy foliage. It blooms freely in large clusters. Flowers pink, changing to pure white; fragrant and desirable. Elegantissima aurea.— The new golden lilac. Of strong growth, and soft, golden, lutescent foliage. It is, without doubt, the finest golden leaf plant we at present possess.

Viburnum, plicatum.— A charming, lovely Japan snowball of medium growth. Its foliage is large and finely plicated. It produces small snowball flowers in great profusion, and is one of the best shrubs in cultivation.

Weigela.— These beautiful shrubs are to be encouraged for their easy growth and free-flowering habit. They make a rare picture when in flower, and ought to be found everywhere. Candida is an easy-growing, pure white variety; recommended. Floribunda is a charming variety, with beautiful, deep-red flowers; distinct and the best of all Weigelas.

Xanthoceras, sorbifolia.— This, the last on our list, is in the opinion of your committee, the most desirable, handsome flowering shrub introduced for a long time. Its bright, lively foliage gives it a distinctive appearance. Its flowers, which are produced on long stems in abundance, are white, with large purple-red spots in throat, or base of flower. Having flowered it for several seasons we cannot speak too highly of its merits.

ORNITHOLOGY.

By WALTER B. BARROWS, Assistant Ornithologist, U. S. Dept. Agriculture
Washington, D. C

The interrelation of birds and horticulture is a many-sided problem, one requiring for its complete solution a larger array of facts than has been made yet, and a more careful study of these facts than most people imagine to be necessary. Here and there an individual has taken up some particular branch of the inquiry and settled the limited question which affects his own interests, but only recently has the problem, as a whole, been attacked, and the progress thus far made does not warrant any very rigid conclusions except of a general nature.

No well-informed persons can doubt that birds, as a whole, are beneficial to the agriculturist, yet many a farmer and fruit grower has a strong feeling that he bears more than his share of the damage inflicted by birds, and receives less than the average of benefit.

It is useless to deny that fruit growers suffer a direct and definite loss each year from the attacks of birds. It is equally useless, in the present state of our knowledge, to attempt to demonstrate that the particular birds which cause this loss make any satisfactory return to the fruit growers. In some cases a considerable offset to the harm probably could be shown, but the exact amount of the credit to be given could not be determined, and in many cases it would be difficult to show that any compensation to the loser was made. As a rule, the larger the area of any one cultivator, and the greater the variety of the crops grown, the smaller will be the relative loss and the larger the direct compensation for the harm done.

An example may make this point clearer. Suppose a man to cultivate 100 acres, giving a fair proportion to vegetables, small fruits, orchards and vineyards, with a fair proportion of shade trees and shrubberies, and a little lawn or pasture. Ignoring the English sparrow, almost the only loss occasioned by birds will be in the damage to cherries, strawberries, raspberries and grapes, and this will be caused mainly or entirely by four or five species of birds ,probably the robin (Merula migratoria), catbird (Galeoscoptes (Carolinesis), cedarbird or cherrybird (Ampelis cedrorum), red-headed woodpecker (Melanerpes erythrocephalus), and Baltimore oriole (Icterus galbula). Purplefinches or red linnets (Carpodacus purpureus) may cause annoyance by nipping the flower buds of choice cherries and pears early in the spring; orioles and grosbeaks (Habia ludoviciana) may destroy some peas, and perhaps the goldfinch or yellowbird (Spinus tristis) will occasion some loss by eating and scattering the seed of lettuce, turnip and cabbage; but these are minor and irregular thefts, and ordinarily not worthy of notice.

Except in the case of grapes, the harm will be done mainly during June and July, and nearly all the marauders will be locals, that is, will have their nests in the immediate vicinity, and will obtain all the remainder of the food necessary for themselves and their young from the same farm. Cedarbirds are great rovers, and very possibly may come from a distance for their fruit, but even in that case they are sure to eat something else belonging on the farm.

Now, no one of the species mentioned, even when adult, feeds exclusively on fruit, and the young get far less fruit than the old birds. On an average, at least two-fifths of the food of old and young consists of insects, even during June and July, and many of these are decidedly harmful insects, so that certainly some good is done by their destruction; and whatever the amount may be it should go to the credit of the birds as helping to balance the account for fruit stolen from the same premises.

So long, therefore, as the amount of harm done is not very great, and the amount of good is uncertain, a truck farmer or market gardener might reasonably be asked to tolerate the birds. On such a farm as has been instanced they may be looked upon as a class of laborers working for their board, and probably earning it, although, unfortunately, they insist on selecting their own food, which they seldom do in an economical manner, and often in a way very annoying to their employer.

If, on the other hand, we consider the effect of fruit-eating birds on a farm of similar size given entirely to small fruits, including grapes, the conditions are somewhat different. The losses are fully as great and the compensation less. True, the farm itself will offer a few suitable locations for nests, and its more central portions will suffer less from the inroads of birds from neighboring groves and orchards; but, for this very reason, its edges will sustain more injury, and the return made in the way of consumption of injurious insects will be almost entirely to the owner of the nesting grounds instead of to the fruit grower. The marauders may do some good, incidentally, to the owner of the fruit, but the bulk falls to his neighbors who have less fruit and a greater variety of other crops, and it does not seem just that he should support these birds, so far, at least, as half their food goes, and get practically no good in return. On the other hand, it may be fairly asked whether he has the right to kill them, even in defense of his own crops, thus depriving his neighbors of the good they are receiving.

Such preliminary studies of the food of our native birds as have been made thus far show it to be highly improbable that any species ought to be exterminated altogether. It is absolutely certain, that our native birds, taken as a whole, do more good than harm, and in the present state of our knowledge it would be unwise to recommend the wholesale destruction of any. It does not follow, however, that the good done to any one farmer or fruit grower will equal or exceed the harm done him, though this is probable in most cases where the acreage is large and a fair variety of crops is grown.

It should be noted that, in the supposed cases cited above, no mention was made of the other common birds of farm and garden which do not eat fruit or grain to any appreciable extent. Among these might be mentioned the warblers, chickadees, wrens, song and chipping sparrows, swallows, cuckoos, flycatchers, smaller woodpeckers, and others, most of which are distinctly beneficial whenever and wherever found. It also should be borne in mind that the species mentioned as most addicted to fruit stealing are injurious only during three, or at most four, months of the year, although all are present and perhaps actively beneficial during at least one or two more, and some, as the robin and cedarbird, during the larger part of the year.

It is very clear, nevertheless, that fruit growers are likely to suffer more in proportion than other farmers from the attacks of birds, and it is but fair to consider the possible means which can be taken to prevent or at least to lessen this loss as much as possible.

From the remarks made earlier in this paper perhaps it might be inferred that shooting was supposed to be the only remedy. As a matter of fact, however, it is our belief that this should be one of the last resorts. From what has been said already it should be clear that most birds are too valuable to be killed; but aside from this their shooting would be both expensive and unlawful.

The imported nuisance, the English sparrow, ought to be killed whenever it is possible, but this can be done most effectively by other means than shooting, particularly by the judicious use of poison in cold weather, and the destruction of nest and eggs in the summer. Air-rifles and light collecting guns might be used to advantage on English sparrows, under some circumstances, but even if the ammunition costs nothing, the time required makes the process expensive.

As to other fruit-eaters three classes of treatment may be considered: (1.) The fruit may be protected by nets or similar devices which mechanically keep the birds from the fruit. This method is expensive but sure. (2.) The birds may be frightened away by the use of such devices as are commonly called scarecrows, or by the presence of boys, cats, or other animals. Scarecrows are expensive — but commonly also ineffectual. On a large scale the employment of men or boys becomes expensive unless they are actual pickers, and often the most critical time is when the fruit is beginning to ripen and not ready to be picked. (3.) Perhaps a counter-attraction may be given the birds — a fruit which would attract and satisfy them, though worthless or nearly so to the fruit-grower.

Methods coming under the first head are too expensive generally to be applied to any considerable area, the cost of the nets being the most important item. It is probable, however, that a net with a very large mesh — large enough to let a robin through easily — would be just as effective practically as one with a close mesh. Remembering the fact that crows are kept away from cornfields with more or less success by one or two white threads or strings stretched across and around the field it seems probable that if one set of these strings were put closer together and another series stretched at right angles the practical effect of a net would be gained, although the mesh might be very large; the largest size which would answer being determined by experiment. By using a cheap white twine, and stretching it between temporary stakes set about the edges of the field, no doubt strawberries, raspberries and blackberries could be protected almost completely, and at a cost which would be very moderate compared with the use of actual nets. Whether the same method could be applied advantageously to cherry trees would depend somewhat upon their size and location, but in any case the meshes would need to be smaller and the labor and expense of putting up poles for a framework and stretching the twine, would increase the cost materially.

Under the head of scare-crows it may be well to consider the actual enemies of wild birds, as well as the effigies of them, which commonly do duty in berry patches and orchards.

It is not probable that the common cat can be utilized to any extent as a scare-crow, but it has been demonstrated beyond question that a living hawk confined only by a thong about the foot and placed conspicuously will prevent absolutely the approach of birds over a considerable territory. Even a stuffed hawk is perfectly effective for a day or two, and by shifting it from one position to another, or by having several individuals of different sizes and kinds, the protection of a large area can be assured.

This method also is somewhat expensive, but the hawks need not be of the largest kind nor mounted in the highest style of art, although good work will deceive the birds longer than poor work. If the mounted specimens are well cared for they should last several seasons.

The possibility of providing a special supply of fruit for birds, and thereby preventing their depredations on the more valuable kinds, has been recommended many times, by horticulturists as well as by ornithologists. The great trouble is to find a fruit which is early enough to protect early cherries and strawberries, and attractive enough at all times to compete in the birds' favor with fruits more valuable to the grower. The typical fruit of this kind should be a profuse bearer, should remain a long time in season, and be hardy enough to thrive anywhere without much care. It is needless to say that as yet such a fruit has not appeared, and perhaps is not likely to be found, but fruits fulfilling parts of these requisites are available, and by combining several kinds and using a little foresight in planting, much good can be accomplished.

Probably some form of the Juneberry (Amelanchier) would serve to divert many birds from early fruits, and possibly some species of mulberry would keep up the attraction for a week or two longer. If the wild cherry (Prunus serotina) were planted freely along roadsides and between fields it doubtless would prevent many thefts of grapes from neighboring vineyards, and the elder (Sambucus) and viburnum would be useful as well as ornamental if included more generally in hedges and shrubberies.

GARDEN VEGETABLES.

By EUGENE A. RUHLMANN, Lockport, N. Y

The year 1892, as a whole, was quite favorable to all kinds of vegetables in the vicinity of Lockport, with the exception of cabbages, which suffered from the heavy rains in the early part of the season, except on well-drained soils, where they did well.

Cucumbers were an extraordinary crop, and all other standard crops came up to expectation. Asparagus was somewhat slow on account of the cold, wet weather. Prices were good, from fair to high. The overproduction of 1891 made gardeners conservative in plantings of certain crops, and, as a result, the markets were short. Especially was this so in regard to cabbage, which, in the fall and winter of 1891, brought only from two to three cents per head, while in 1892 prices ranged from four to twelve cents. The same holds good respecting onions.

Planters work too much in "streaks." Where their neighbors do well with a certain crop one season all plant the same crop next season, and thus flood the market. Many orchards of apple trees in this section are being cut down because the crops have been light for a year or two. It has required fifteen years for these apple trees to come into bearing, and in a few years apples will again bring good prices. Then the farmer who is now cutting down his trees will realize how foolish he has been. Suddenly he will resolve to plant a ten-acre lot with some nice, new apple which he has heard is doing well in the market. These will, in their turn, come into bearing at a time when the farmer is, perhaps, past sixty years old; and now a neighbor, jealous of his success, turns in, at fifty years of age, and plants a twenty-acre lot with the same variety. It becomes infectious, and fifteen years later down prices will go again. So much by way of comment on the inconstancy of men in their methods of management.

Berries, in Niagara county, brought big money last year, bringing from seven to fifteen cents per quart. The same thing holds good in reference to these crops as in apples. The demand for berry plants is greater than for years, consequently look out for low prices in a few years. Grapes and currants are not in such demand, and when berries are low in price these will be paying good. Many grapes are even now making room for wheat and pumpkins. There need not be a scarcity of small fruits or vegetables, nor are high prices necessary. We have abundance of fertile soil; seasons are generally favorable to the culture of such small fruits as are adapted to our locality or latitude; but one great drawback to their culture is the lack of proper help. A grower of small truck onions cannot grow them at a profit and pay one dollar and fifty cents a day for weeding, and sell his crop at fifty cents a bushel; neither can he grow berries at a profit and pay the same price for help. Our gardeners and growers are prevented from raising small fruits and vegetables because of this lack of help; hence acres of green peas have gone to seed in Niagara county on this account. One man, I understand, let eighteen acres go to seed for this reason. The cry comes from the canning factories for beans, peas, pickles and berries of all kinds, but this lack of help, or the expensiveness of such help as can be obtained, makes this impracticable. Some farmers endeavored to secure help in Lockport, but could only get children from 5 to 10 years of age. Foreigners will work well for a while, but as soon as they get acclimated they are spoiled. Our American youth, maidens and women, although needy at times, scorn out-door work, regarding it beneath their dignity to do such light work as picking and weeding, although they do not shrink from running to the poormaster. I know of twenty-seven families that are now living in Lockport at the expense of the city. If it were not for the foreign emigration quite a difference would be seen in the price of small fruits and vegetables. If the American youth, maiden and laborer had to do the work, onions would be two dollars per bushel and berries twenty cents per quart.

These are sad facts; and what are we growers going to do about it? If we can not secure help we must grow all we can and see that we get paying prices for what we do raise. It is annoying to see other branches of industry well-supplied with intellectual help, while the fruit-grower and market gardener must put up with what he can get.

It is unnecessary to recommend varieties of vegetables, as our seed catalogues are gotten up in such perfection, and seedsmen vie with each other in recommending the true quality of their seeds and plants. It is almost impossible for the grower to make a serious mistake in the choice of seeds. As one of your committee, I desire to express my thanks to the worthy seedsmen of this country for the beauty and completeness of their catalogues, and to give them credit for the honesty which characterizes them. While I receive catalogues from all parts of Europe, none equal those of our American seedsmen in beauty, instructiveness and reliability.

Essays and Discussions.

By Hon. J. H. HALE, South Glastonbury, Conn.

Peach Culture.

Mr. Hale did not have any written address, the thoughts to which he gave utterance evidently being brought out by the inspiration of the moment, and, as the speaker termed it, " the grand audience" before which he stood. No verbatim report was made of the address, and what is here given is a simple resume of a speech full of practical experiences and hints; and bristling with humor. Speaking of the soil in his particular locality, the speaker describes it as thin and lacking in plant food. But being a believer in generous feeding. Mr. Hale gives all his crops high fertilization, mostly using commercial fertilizers. Barn-yard manure is ignored, as it is found to stimulate an unhealthy growth which leads to the winter-killing of the buds. He uses potash largely and ground bone, which he mixes himself, 500 to 800 pounds muriate of potash twelve hundred to 2,000 pounds of bone per acre. He spends from eighteen to twenty-five hundred dollars per year for commercial fertilizers, which he applies to about thirty-five acres.

Mr. Hale has taken from thirty-eight acres of peaches, $28,000 in one season. He attributes much of his success to the system of pruning and thinning adopted by him and to the exercise of great care in the grading of fruit for market. Elevated sites are preferable for peach orchards, being less likely to suffer from frosts than when planted in valleys. The greatest drawback the speaker had experienced was the winter-killing of buds. In some years they would nearly all be killed, but he had found that if eighty per cent were killed there were yet enough remaining to make a good crop.

Mr. Hale has a method of pruning to which many might take exception. He does not believe in following any orthodox rule, contending that when old plans are adhered to, serious loss is oftentimes the result. After the trees come of bearing age he does not prune for symmetry. The members followed with eager interest his narration of the unique method adopted by him. In planting a peach tree he shortened it to two and one-half to three feet the first year. Subsequently the branches were shortened back only a few inches, increasing the amount cut back every year until after the tree has been established several years when half the new growth is cut back. His early pruning is for form of tree, but after the tree begins to bear, he trims simply for fruit, cutting off those branches that have no live fruit buds on at the time the buds are swelling. He trims to let in the sun as much as possible. By cutting out such branches as bear no live buds the tree presents an appearance not at all beautiful, which he cares very little about. He thins out the fruit when the pits are forming, leaving no peaches nearer than six inches apart. Where the fruit is trimmed out one-half, he gets six baskets of better quality, but if two-thirds were taken out he gets more baskets and still better quality. The effect of the thing is to give fruit of better quality, better color and style, and it brings two or three times the price of fruit as ordinarily grown. Some varieties, like the Late Crawford, requires but little thinning, that variety not being a prolific bearer. Other varieties, like Hill's Chili, require very thorough thnning, otherwise the fruit is of very poor quality and so woolly as almost to require the application of shears to remove it. This is a handsome fruit when the fruit is properly thinned, and hardest of all in bud. Thinning is beneficial from the fact that the peach pit is very exhaustive to the tree. Many peach trees are ruined by being permitted to overbear one season. The thinning is done with a pair of shears with sharp points.

Mr. Hale plows annually, shallow, in early spring, and keeps down the grass and weeds until August. He has sometimes sown rye and red clover to plow under. He allows the peaches to ripen on the tree, but not to become soft. The pickers are instructed to look on the under side of the peach where it is in the shade, and if it looks creamy white or yellow there according to variety it is ripe. It is not safe to pick the peach simply because it looks ripe on the sunny side..

But Mr. Hale does not rest satisfied with using an abundance of fertilizers, careful pruning and severe thinning out. He regards the sorting and packing of fruit as of even greater importance. He employed young ladies and girls to do the sorting of the fruit, finding that they exercised better taste in the matter than men and graded more carefully. If a peach was questionably imperfect the men would throw it in with the first grade, while the girls would invariably throw it in with the lower grade. He established at once a reputation for careful grading, each grade being marked by labels of red, white or blue; red for the first grade, white for the second grade and blue for the third. The grades were all good peaches, the culls being put in a fourth grade. When he first began to offer these peaches to the commission men, they commenced to empty out the baskets to see what was at the bottom. This he would not allow them to do, telling them he guaranteed the bottom and middle of the basket to be as good as the top. It injures peaches to have them handled. It was perfectly safe for a dealer to order by the brand, there being no necessity for the request that they shall be "as good as the last lot," etc. His reputation for fine fruit is such that he can now secure higher prices than the same fruit would bring in the hands of other men.

Mr. Hale advises the prompt removal of all diseased trees, as generally it will not pay to attempt to revive them. He says he gets a great deal of fun out of his peach orchard. There is a vast difference in kinds of fun. His enjoyment is to see the trees growing and bearing the beautiful fruit, and to handle it, and market it, as well as to receive the reward in golden dollars. In addition to his large peach orchard in Connecticut, Mr. Hale has an orchard in Georgia, embracing nearly 600 acres. His boy has figured that all of his peach trees, planted in a line fourteen feet apart, would extend 357 miles.

When the speaker sat down he was greeted with enthusiastic applause, after which he was plied with many questions, which, together with his answers, here follow:

In reply to a question, Mr. Hale said: Upon the majority of our trees the heads were started about two and half feet high. We used medium-grade trees, cut off the side branches, and the main cane to about two and a half feet. The tendency of the first two or three branches is to grow upward and outward, while the higher they are headed the tendency is to grow more outward than upward. In shortening in the first year's growth the following spring we cut down to twelve or fourteen inches.

Replying to an inquiry as to varieties used, Mr. Hale said: In our early plantings we planted about twenty-five of the leading market sorts. We have found a great deal of difference in the hardiness of the varieties. The white-fleshed, as a rule, are the more hardy, the yellow the most tender. Alexander and a dozen others of that class are among the most hardy, but not profitable for market and are being abandoned. Following next, the best early peach is the Mountain Rose, extremely hardy, and of superb color and quality; also Stump and Old Mixon. Following later, the Keyport White, very thrifty and hardy; a fine white peach if the season is pleasant and sunny, but if cloudy, damp and cool, they mildew. Of the yellow peaches, Hill's Chili has only failed twice in twelve years; inclined to overbear, and if trees are not thoroughly opened up, fruit will be woolly; but if you thin both tree and fruit good, it will develop into a good-sized peach, orange-yellow, but little fuzz, and is the best canning peach in the market.

To the question, "Why do you depreciate stable manure?" Mr. Hale said it made too much, too rapid and too tender a wood growth on the whole, to render the wood and the fruit bud hardy enough to withstand the frosts of winter. He had found by experience that peach trees are far more susceptible to the yellows when thus fed than they are from the use of commercial fertilizers rich in potash and phosphoric acid and lacking in nitrogen.

Question. What do you think of the Elberta?

Mr. Hale.— It is a magnificent peach; the most hardy of any in the south; has only fruited with us two years. I believe it is going to be a valuable yellow peach for the north; has fruited in Illinois and also in Orleans county in this State, when other varieties failed. It is one of the most popular peaches of the day. It is a large, handsome peach, ripening between Early and Late Crawford. It endures shipping remarkably well.

Question. How much fertilizer do you use to the acre?

Mr. Hale.— All the way from 1,200 to 3,000 pounds; probably average 1,800 pounds of ground, fine bone and muriate of potash. Used thirty tons of cotton hull ashes, twenty-seven per cent of potash, last season on a twenty-two acre orchard. The purpose of it is to keep the trees in moderately healthy growth. You cannot paint peaches without potash, nor add sugar to them without it.

Question. What kind of soil is yours?

Mr. Hale.— Our soils are of a somewhat sandy nature; some with a little clay.

Question. How about Smock?

Mr. Hale.— We find it quite hardy. I should have included that with Mr. Hill's Chili. It is a little too late to ripen every year perfectly in our latitude; it is a very profitable late yellow peach. Wonderful, a seedling of the Smock, I regret to say, was put on the market before the fruit had ever been tested from trees of budded stock. Seedlings will sometimes produce very fine fruit. I don't think anyone should ever introduce and put on the market a peach before it has been tested on budded stock.

Question. What about crimson clover as a fertilizer?

Mr. Hale.— I tested it some years ago from imported seed and it was killed. The last two years I have used seed which has lived through our Connecticut winter; sowed in July, and gave me a good growth into November. Am favorably impressed with it; I have several hundred acres growing in Georgia doing nicely. I would not use it in those orchards at the north after they attain a bearing age, as I fear it would supply too much nitrogen.

Mr. S. J. Robbins.— I can raise fine-looking trees, but not many peaches. The healthy condition of the tree, in my case, has not produced fruit. We have used plenty of barn-yard manure.

Mr. Hale.— I do not call a peach tree that is overgrown (as I presume yours to be) a healthy tree. I would not use stable manure.

Mr. Robbins.— In planting trees, do you use potash or ashes?

Mr. Hale.— I use all the fertilizer I can buy; broadcast it always and work it in. Most of our lands have been what are called "worn-out lands," so that we have felt it necessary to begin heavy feeding from the start. Use wood ashes if I can get them at twenty-five cents a bushel or less; and if not, then muriate of potash.

Question. How far apart do you plant trees?

Mr. Hale.— The last two plantings are thirteen by fourteen feet apart.

Question. What proportion of muriate of potash and bone do you use?

Mr. Hale.— That varies with different sections; usually three of bone to one of potash.

Question. Do you find trees on northern exposures more hardy and productive than on southern exposures?

Mr. Hale.— On the whole, they are; but in severe winter weather would say not.

Causes Affecting the Fruiting of Pears and Apples.

By M. B. WAITE, Division of Pathology, U. S. Department of Agriculture.

This paper was of exceeding interest, opening up new lines of investigation that must prove of great value to fruit-growers. We much regret our inability to procure from the essayist the manuscript used, and we know that our disappointment will be shared by all those members who were fortunate enough to listen to Professor Waite. In order that some permanent record shall be made of this paper, your secretary has copied the following from the report published by the Cultivator and Country Gentleman, as follows:

Professor Waite spoke of one of the factors which affect the setting of fruit, namely, the potency or sterility of pollen. This is an important and practical point, and can be ignored by the orchardist only at the risk of losing his crops. In a general sense, perhaps, it is not a new discovery, as claimed; but it is a matter not yet fully and generally understood by the average grower of tree fruits. The details as worked out by Professor Waite are certainly new. His experiments were confined to pears and apples, chiefly the former. He told of a Bartlett pear orchard in Virginia which, having other varieties scattered through the Bartletts, became famous for its regular and abundant crops, and induced a stock company to plant another orchard of 20,000 trees near by. These were all Bartletts, without any other variety in the whole plantation. This orchard has never been productive. In one corner only stood a tree of Clapp's Favorite, and here the surrounding Bartlett trees produced fruit. Along one side, also, where other varieties stood at a little distance, crops were occasionally secured. Professor Waite covered a large number of the blossoms with mosquito netting and some with paper bags, and found that the Bartlett did not self-fertilize. All the blossoms from which insects were thus excluded failed to set fruit. These investigations were continued at Brockport and at Rochester, N. Y. The specimen orchards of Ellwanger & Barry, in which a large number of varieties are grown intermixed, are known far and wide for their annual and heavy crops. As a result of these experiments it was found that only about one-third of the varieties of pears under cultivation are capable of fertilizing themselves, while the others will not, and will be unproductive and unprofitable unless planted near other varieties. Varieties that do not fertilize themselves are: Bartlett, Anjou, Clapp's Favorite, Clairgeau, Sheldon, Mt. Vernon, Lawrence, Howell, Louise Bonne, Souvenir du Congres, Winter Nelis, Bosc, Easter, Superfin. Varieties that will fertilize their own blossoms, and will produce fruit even if standing alone, are: Doyenne, Le Conte, Kieffer, Buffum, Flemish Beauty, Seckel and Tyson.

In a majority of cases it was also found that the fruit produced by self-fertilization was quite different from that produced by cross-fertilization. The occasional specimens of self-fertilized Bartletts were invariably smoother and slimmer, the cross-fertilized ones rougher and broader. This difference was so constant as to be striking. A still greater difference was shown in the seeds. Self-fertilized fruits had but few seeds, and these seldom perfect. The cross-fertilized specimens showed the regular number of perfect seeds. Buffum, self-fertilized, almost without exception had imperfect seeds. The self-fertilized fruits are not the normal ones, and would not pass as typical specimens. Fruits growing in ordinary mixed orchards under ordinary conditions show by their shape, etc., that they are the result of cross-fertilization. With apples the results were less decided. Pollen taken from other trees of the same variety usually acts in the same way as that taken from the same tree. The different trees all came from the same seed, and are really one and the same so far as the character of flowers and pollen is concerned.

Many plants procure fertilization by the aid of the wind. Not so the pear. This depends altogether on insects for the transfer of the pollen. A great many varieties of insects visit apple and pear blossoms — flies, beetles, bees, etc. The honey bee is the most regular and persistent visitor, and on account of its great activity, the most important. During rain, strong winds, or in cold weather these insects do not come out, and flowers may fail to get properly fertilized.

It is not desirable to plant large plats of one variety of tree fruit. They should be mixed up. Three rows are as much as ought to be planted of any one variety. Alongside of these there should be a row of other varieties. Where old orchards, all of one variety, exist, part of the trees all over the plat should be top-grafted with other sorts.

The time of blooming should be taken into consideration. At the North the different varieties of pears bloom nearly all at one time. In southern Virginia the same varieties bloomed a week apart. Some varieties of apples show considerable difference in time of blooming. Varieties of tree fruits planted together, for the purpose of securing proper fertilization, must bloom at about the same time. Every orchard also should have a reasonable number of bees. When the trees are in full bloom there are hardly enough insects to go round. In Western New York, for instance, it is doubtful whether there are insects enough to properly fertilize the apple orchards.

Mr. Willard eulogized the paper. Every fruit-grower should study the subject closely. He knew about that Vinginia orchard. The Bartletts in a mixed orchard were so successful every year that it led to the planting of 22,000 more of that variety.

Mr. Jacob Moore.— The experience of Mr. Waite differs from mine as regards the effects of cross-fertilization. I have experimented along this line for years. I have never seen any different results from cross or self-fertilization. I would ask Mr. Waite if, in his experiments with pears, he took away all the other flowers in the cluster except the one left for the operation ?

Mr. Waite.— I always cut off the other flowers.

Professor Beach.— I saw some of the fruit which Mr. Fairchild produced in his experiments with Mr. Waite. There certainly was, in some cases, a difference between the pears which were self-fertilized and those which were crossed or exposed to cross-fertilization. A gentleman at Geneva asked us to fertilize Spitzenburg blossoms with Spitzenburg pollen. This is one of the varieties mentioned by Mr. Waite in the self-sterile list. In accordance with this request several blossoms were fertilized, some with Spitzenburg pollen from the same orchard, and some with pollen from Spitzenburg trees about a mile distant. No fruit set when the former pollen was used, but when the latter pollen was used fruit set freely.

Mr. Moore.— There would be a variation in the fruit even if the flowers were fertilized with Spitzenburg pollen from another place.

Professor Beach.— In my experience in crossing and hybridizing there have been many instances, like those mentioned by Mr. Moore, in which no differences could be seen, that might be due to the influence of the foreign pollen. In the Spitzenburg fruit no such differences could be seen, but with the pears there was a distinct difference.

Professor Bailey.— I watched those experiments and am convinced they are the most important innovations we have had in the past two years.

Mr. Hunt.— I have a Bartlett orchard in one block, in which the fruit formed and then dropped off. At the other end of the place I have a single tree near other trees, which always bears.

Mr. Hooker.— Practically, gentlemen, I think we are dependent on the weather and the healthfulness of the tree. This latter thing is settled the year before. If we have had an unfavorable season the previous year, unhealthy growth, and, during the flowering period in the spring, rain for ten days, the fruit crop here is largely a failure.

A Member.— That is all right as far as smaller plantations are concerned; but when we come to the larger ones we can not expect to get a large crop of a single variety. But if a different variety or species is introduced then both plantations will fruit well.

Professor Bailey.— If any one wishes proof of the benefits of mixed planting let them visit Ellwanger & Barry's grounds every year. I never saw such success.

Fertilizing Orchards.

By Prof. I. P. ROBERTS, Director, College of Agriculture, Cornell University.

[This paper was read by Prof. BAILEY, in the absence of the author.]

When the land is cleared of its forests, a large amount of readily soluble plant food was in the soil, the product of the ages of growth and decay. Not only the surface soil but the subsoil to a considerable depth was filled with roots which disappeared very slowly and formed, for many years, natural drainage tubes, which not only relieved the land of much of its surface water but allowed the air to enter to some considerable distance into the earth, thereby hastening chemical action and thus, as the years went by, the plant food which was partially inert became available.

In these early days the land situated in a climate adapted to fruit was extremely productive. The orchard was usually separated by considerable areas of timber, importation of fruit trees had not yet begun and many of the enemies of the orchard were, in these early days, entirely unknown. Even the poorer lands brought forth abundant harvests of fruit and vegetables. All this is now changed, the forests have been swept away, the natural drainage of the land has been destroyed, and in most cases nothing has been substituted in its stead. The best of the plant food has been removed from the soil, and more than this, as the fruit industry has advanced, and as new and better varieties have been introduced, we have succeeded in many cases in producing a tree that is not able to maintain itself in a high degree of efficiency unless it is furnished with an abundance of available plant food of the right character.

In orcharding, we met with the following conditions: Land, water-logged; available plant food, scarce; insect enemies, multiplied; fungous growth, abundant; sweeping winds and changeable weather; trees delicate in character. How to overcome some of these difficulties should be the constant study of the orchardist.

In many orchards the cheapest way to get available plant food would be by the intelligent use of drain tile. There is an abundance of food yet in the soil, as can be easily proved. A poor clay soil in Tompkins county was analyzed and found to contain, for the first nine inches, 3,094 pounds of phosphoric acid, 3,410 pounds of potash, and 1,876 pounds of nitrogen. Several soils analyzed in Europe of one medium and good quality produced in every 100 pounds of earth one-fourth of a pound of potash, one-eighth of a pound of phosphoric acid and one-half pound of nitrogen, or, in the first foot, 8,000 pounds of potash, 4,000 pounds of phosphoric acid and 1,600 pounds of nitrogen per acre. Computed at four, eight and sixteen cents per pound, respectively, the value of the plant food in an acre a foot deep would be $3,200 Such a soil can not be said to be deficient in plant foods; what might be said of it is, that quality of plant food which is demanded for the highest character of plants is deficient. There would be no difficulty in raising a very large crop of mullens or field pines, but such land can not be said to be exhausted. In a few cases 40,000 pounds of nitrogen have been found in the first foot of an acre of ground.

Twenty years in hay, one ton per acre, ten in wheat, twenty bushels per acre; ten in corn, forty bushels per acre, and ten in oats and barley, forty bushels per acre, with straw and stalks, would carry from each acre of land, in this fifty years' rotation, plant food valued commercially at $404 per acre. Having removed all this vast amount of plant food and returning annually a quarter, at most a half, of it to the land, is it any wonder that our orchards do not produce abundantly when set upon this partially depleted soil?

I have said that often the cheapest way to get available plant food in the orchard is to tile-drain it, but much of the lands set to orchards would not be benefited by this expensive outlay, because they are naturally underdrained. In our numerous experiments with the cultivation of soil we naturally are attracted to the one that has given us marked results by culture alone.

Then, by improved implements and superior skill, we may often get the plant food more cheaply than by any other method.

Again, lands may be so poor and light that comparatively little plant food can be secured even by the most skillful cultivation. In these cases, and in the others referred to, some positive addition of plant food should be made to the soil. How can it best be procured? First, farm manures always stand in the front, because easily secured, at little or no cost, for the feeding of animals on the farm should result in profit, and, under good management, does result in profit, after taking into consideration the value of the manure produced by them. But farm manures are not well balanced; that is, they are too rich in nitrogen for the mineral matter they contain, and so should always be used in small quantities, and, if possible, should be well rotted before they are used, as well-rotted manures are likely to do less damage in stimulating the plants than the unrotted. Nitrogen can be secured easily by other means than by purchase. The sowing of clover or of vetches, or of other leguminous plants, will furnish not only an abundance of nitrogen, all the orchard should have, but it will also bring up much mineral matter from the soil which otherwise would not have been used; and this mineral matter, when given up by the plant, will form soluble food, of which the fruit trees can avail themselves. Again, the fertility of the orchard does not play as important a part when the weather is dry as does the amount of water which is present. So, the question of fertilizing orchards can not be treated without touching upon this question. First, the trees should be set at wide intervals; the land should be kept moist on the surface by cultivation, thereby forming a mulch and conserving moisture; or, it should be shaded by plants. These plants should be of such a character that they will not die until after the dry period is past. As water is the means of circulation in plants and animals, therefore it is of prime importance that water be present in the soil in order that the plant food may be taken up by the trees. Many orchards have sufficiently available plant food but lack water at that critical period when the trees are making fruit. If there is no water present, some forms of fertilizers, such as nitrogen, are positively detrimental if they are present in abundance. If, then, our desire is to secure the best results, we should bring all the factors of success together at one time and in one place. Let me sum them up:

First. The removal of water, when it is too abundant.

Second. The conservation of water, when it is deficient.

Third. The use of the refuse of the farm and of nitrogenous plants.

Fourth. The use of potash and phosphoric acid in forms that are readily available.

Fifth. By surface culture, where it is applicable to the conditions present.

Sixth. By reducing the number of trees per acre.

Seventh. By ceasing culture, by withholding nitrogen and increasing the mineral matter until that point is reached where the tenderest trees develop hard wood, firm bark and mature fruit buds.

Eighth. By encouraging the cultivation of trees, especially forest trees and windbreaks, so that the wind may, in a measure, be prevented from sucking up the moisture of the land.

Ninth. By mulching the earth when the orchard is open land; by keeping a covering of porous earth at the surface through the first half of the season.

Tenth. By fitting the land fertilizing it in the best manner possible before the orchards are set.

Professor Bailey.— I have come to change my ideas in reference to orchard cultivation. I used to urge clean or constant cultivation throughout the season, but I now prefer to cultivate until about midsummer, and then to sow some cover plant, like vetch.

A Member.— Do the roots of the vetches furnish manure for the soil?

Professor Bailey.— It is an annual plant, and its root system is naturally short. It is not a better plant for a fertilizer than clover, but we can sandwich it in between other crops. I prefer this kind of cultivation for pears and peaches, clean early in the season and a clover crop later on. The cost of the seed is, I think, about two dollars per bushel; use one bushel to an acre.

Professor W. W. Munson.— In Maine, in my section, trees are planted in the best places to be found among the rocks. A mulch is the salvation of the trees, and the use of salt hay is just what they need. It seems to me that the subject as presented here, in the protection of the soil in the fall, is getting to be the important one in the line of orchard culture. How about the mulch as compared with cultivation?

Professor Bailey.— That is a difficult question to answer. If I had to choose between the sod and the mulch on the sod I hardly know what I would do; think I would apply the mulch. But I should not like to feel that I had to grow an orchard on sod throughout its lifetime. If the soil was rocky I would keep it as loose, porous and sweet on top as possible.

A Member.— I presume the seed of the vetch might be raised here by early sowing.

Professor Bailey.— I don't think it would be profitable. Of vetches sowed June twenty-sixth only a few plants matured seed. There are half a dozen kinds; we get the annual. I am not greatly impressed in regard to use of buckwheat, but Professor Roberts and I both agree in reference to the vetches.

Mr. Smith asked what was the object in using vetches?

Professor Bailey.— First, to get the mechanical influence on the ground, and, second, to put into the ground the fiber.

Mr. Smith.— Buckwheat can be obtained at a cost of sixty to eighty cents a bushel and can be sown as early as you please, and it shades the ground perfectly. The nutrition doesn't amount to much in either case. The plant alone gives nutriment. For shading it is the cheapest plant you can raise.

Mr. C. M. Hooker.— Our experience is that ground well cultivated is much more moist than when covered with vegetation. I think in that respect the writer of the paper is mistaken. I also think that whatever is put on and allowed to grow in the latter part of the season, should be plowed late in the fall, using a gang plow.

A Member asked Professor Bailey if he had had any experience in growing crimson clover?

Professor Bailey.— Crimson clover has not been grown so far north as this with uniform success.

A Member would like to have the question of taking moisture from the soil settled.

Professor Bailey.— The whole question is one of observation. Undoubtedly there are cases in which plants make the soil dry. We get a covering of vetches perfectly impenetrable. Plants which do shade the soil and are put on late in the season, following good cultivation early in the season, are nearly all considered to be plants which conserve the moisture.

Mr. J. S. Woodward.— I am the friend of the sheep. As I understand this matter, there is never a time when something comes from nothing. I have been practicing a course in my orchard which pleases me well. I find that the evaporation from the land by growing plants is in proportion to the leaf-growing surface of the soil. I put sheep in my orchard and they eat close down to the sod. Then I have but little leaf surface, and I prefer to feed the sheep there. The fertility thus afforded is better than all the manure in the world. My orchard has not been plowed in seventeen years, and we raise fine russet apples, the trees making a growth of from sixteen to twenty inches each year. The best way here is to sheep them.

A Member.— This plan, then, gives you a clean surface for picking up the windfalls.

Mr. J. S. Woodward.— When my apples fall the sheep take them and the worms with them. And my apples grow better every year.

Professor Bailey.— There is a difference of opinion here. I do not wish to be dogmatic. If a man's orchard is doing well under the treatment he is giving it I have nothing to say about it. As a general practice, I believe the plan suggested by Professor Roberts to be best.

Mr. G. T. Powell.— There is one point I wish to refer to — the winter protection of the soil. I have been following the plan indicated by Professor Bailey, and in the past few years have been successful with clover. Have used buckwheat in the cultivation of small fruits and grapes, putting it on after the currants have been picked and letting it cover the ground as a winter protection, when I think we suffer more than during the dry season of summer. When the temperature is low a clean piece of land suffers wonderfully from evaporation. It is then our peaches are hurt and the grapes destroyed. You can see the force of this if you lay a board on a selected piece of soil in the fall, remove in the spring, and you will be surprised at the moist condition of the soil. It is simply that the board had prevented evaporation taking place during the winter.

Mr. C. M. Hooker.— Then the farmers have been wrong all these years. We have always thought fall plowing was quite an advantage, and were told to expose the ground to the action of the frosts. We think we found an advantage in this. Weeds were killed, and the ground was clean in the spring, and we don't have to touch it so early.

Hon. J. H. Hale.— This is a very valuable paper, with the main line of thought in which I agree. Mr. Munson referred to the necessity in his section of planting trees among the rocks, where tillage was almost impossible. I know one or two such orchards that have had good care otherwise; annual dressing of commercial fertilizer; grass has been mown annually; sometimes twice a year, and left there. There is an increasing grass crop as a result, and the orchard is a successful one. The methods of culture laid down are, I believe, correct — thorough and early cultivation. My experience and observation is that cow peas and clover are inclined to take more moisture from the soil than if it is left loosely cultivated. But in soil in our section I do not think it a serious objection; trees ripen up earlier for lack of moisture later in the season. I think crops of the pea or clover family, or the vetches, are better than buckwheat or rye. I like the advantages of winter protection as described by Mr. Powell, but I do not believe in the orthodox idea of plowing up as mentioned by Mr. Hooker. I have seen land in a better mechanical condition where the green crops were left. In liberally fed and thoroughly cultivated land, the best time to sow clover is the middle of July. You can quit your culture in the orchard and get a magnificent growth of clover through the summer and fall, and the roots of the clover will be twelve to fourteen inches deep. Scarlet clover grows so rapid, and I advise you to try it.

Professor Bailey.— In reply to Mr. Hooker will say that I believe in fall plowing, but I also believe in keeping the ground covered in the winter. It depends upon what we are plowing for. For annual crops which must be put in early in the spring, I believe in fall plowing, but for orchards, as a rule, I do not. The question of moisture depends largely upon two things, In the first place, thorough fine cultivation early in the season; second, the dense shading of the ground.

Mr. W. R. Smith.— I think there is some error mixed up in this discussion. Moisture, we know, is desirable. Rocky ground will not get too dry. With regard to the green crop, I have a fifteen acre meadow, about ten acres of which I plowed up immediately after mowing in the fore part of July, and turned under and rolled it down and seeded to buckwheat; the balance I left. It was a dry season. The buckwheat grew heavily, and there was no time when it lacked moisture. On the other ground timothy roots entirely dried out.

Mr. Robbins.— How about sandy land ? I have sowed buckwheat, but in the past two years have had success in growing red clover with the buckwheat.

Professor Bailey.—It will be better for the sandy land.

Mr. Woodward explained that in his previous remarks he had reference to apple orchards alone. Pear and peach orchards should have cultivation till the middle of July; then seed with oats, etc., and you will get a good deal of chickweed.

Professor Munson.— We believe, in our cold climate (Maine), that this winter protection is essential. Professor Bailey misunderstood my question in regard to mulch. I do not wish it to be understood that we expect to get our crops without returning to the soil an equivalent for what is taken away. We return the grass to the soil, or some fertilizer or stable manure.

Latest Results in Spraying for the Apple Scab.

By Prof. S. A. BEACH, New York Agricultural Experiment Station.

For several years horticulturists in various parts of the United States have been endeavoring to find some means for preventing apple scab. Although their efforts have been quite successful it must be admitted that no one line of treatment has as yet received general indorsement as being superior to other treatments with which it has been compared. The word "treatment" as here used means not only the fungicide used, but also the strength of the material and the time of application. Among the fungicides for apple scab thus far tested may be mentioned sodium hyposulphite, potassium sulphite, calcium sulphide, sulphur solution,* eau celeste, modified eau celeste, ammoniacal solution of copper carbonate suspended in water, a compound of ammoniated copper sulphate and copper carbonate, unwashed precipitate of copper carbonate,§ ammoniacal solution of zinc carbonate, strong Bordeaux mixture containing six pounds of copper sulphate to twenty-two gallons of water, various dilute Bordeaux mixtures, and lastly, Paris green.

The copper mixtures have undoubtedly given the best results, but some of them are liable to injure the foliage. The ammoniacal solution of copper carbonate has proved decidedly beneficial in several experiments. It does not injure the foliage, and it also has the advantage of being readily prepared and easily applied, but when mixed with Paris green or London purple it is liable to injure the foliage seriously. Therefore, if this solution is used it is necessary to make separate applications of Paris green or London purple for the codling moth.

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*Formed by slacking lime to which a certain amount of sulphur has been added. See Jour. Mycology, vol. 7, p. 17.

§ Jour. Mycology, l. c.

The strong Bordeaux mixture (six pounds copper sulphate, four pounds lime and twenty-two gallons water) is more expensive than the ammoniacal solution of copper carbonate, and it is not so readily prepared or so easily applied as that solution. But dilute Bordeaux mixtures which contain from two to four pounds of copper sulphate for twenty-two gallons of water have given practically as good results as other fungicides and are more easily applied than the strong mixture. They are also less expensive than the ammoniacal solution of copper carbonate. All Bordeaux mixtures have these advantages, namely: That they compare favorably with any other fungicide so far as efficiency is concerned, that they do not injure the foliage, and that Paris green or London purple, in the proportion commonly used for the codling moth, may be mixed with them without any fear of injurious results. Where orchards are badly infested with the codling moth it is best to apply Paris green or London purple immediately after the blossoms fall and follow with two more treatments at intervals of about ten days. Since the Paris green may be mixed with the Bordeaux mixture it is readily seen that such a combination will save the labor of three applications as compared with the ammoniacal solution of copper carbonate, with which the application of Paris green must be made separately.

A few weeks ago a circular letter was mailed to each experiment station in those sections of the United States where apples are grown extensively, requesting the station horticulturist to state what remedies had been used for apple scab during the present season and with what success. The verdict of the replies was almost unanimous for Bordeaux mixture for apple scab, and usually a dilute formula was particularly specified. Ammoniacal solution of copper carbonate and modified eau celeste also received favorable mention in two or three instances.

Many object to the use of Bordeaux mixture because they experience so much trouble in preparing and applying it. The preparation may be simplified by a test which obviates the necessity of weighing the lime, and where large quantities of lime are used, permits slacking the lime in large quantities at one operation. The copper sulphate is weighed and mixed with an amount of water sufficient to dissolve it. When it is completely dissolved, the lime, in the form of thin whitewash, is strained through burlap (gunny sacking) or brass wire sieve into the copper sulphate solution. A drop or two of potassium ferrocyanide (saturated aqueous solution), added from time to time after thoroughly stirring the mixture will show that enough lime has been added to form the Bordeaux mixture. If not enough lime has been used, the drop of ferrocyanide will turn to a very dark color the moment it touches the mixture; if lime enough has been used, the ferrocyanide will not change color when it is dropped into the mixture. Water is then added till the Bordeaux mixture is diluted to the desired strength. The commercial form of potassium ferrocyanide may be used for this test. A supply for the entire season may be purchased for a few cents.

When Bordeaux mixture is applied with a knapsack pump the motion of the body will keep the mixture well stirred, but when a barrel-pump is used, the motion of the cart is not sufficient to prevent the copper compounds from settling to the bottom. When this occurs, part of the mixture is applied in a very weak form and a part has an excessive amount of copper. Finally, when the sediment is discharged, it often clogs the nozzle and causes much trouble. These difficulties are best overcome by arranging some kind of dash or agitator so that with every stroke of the pump the whole mixture is thoroughly stirred. An agitator is even more necessary for the application of Paris green than for Bordeaux mixture. Some manufacturers now supply large pumps with agitators.

The true improved Vermorel nozzle is considered best for applythe Bordeaux mixture, better than the modifications of it which are sometimes offered. It forms a perfect spray, is easily cleaned when it becomes clogged, and uses the fungicide in a very economical manner. Other nozzles are now being experimented with and the results of these tests will be watched with much interest.

The cost of spraying for both apple scab and the codling-moth for the entire season will vary from fifteen to twenty-five cents per tree, according to the skill of the operator, the kind of tools used, the kind of fungicide selected, the cost of materials and the number of applications. At the Geneva experiment station several experiments with fungicides for the prevention of apple scab have been tried during the past season. Even under the unfavorable conditions of the past season three treatments of a few fall pippin trees with the ammoniacal solution of copper carbonate and two treatments with Paris green apparently reduced the scab on the foliage thirteen per cent, on the fruit four and seven-tenths per cent and the worminess of the fruit twenty and eight-tenths per cent as compared with untreated trees of the same variety, making a total increase of twenty-five and five-tenths per cent in the first-class fruit seemingly due to spraying. Much more favorable results were secured from the same treatment on Roxbury russets and golden russets, but it is not best to exaggerate the benefit of this particular treatment by selecting exceptionally good results for the purpose of illustration. There can be little doubt that better results could have been secured by varying the time and increasing the number of the treatments in the manner hereafter recommended. Even this low per cent of gain in first-class fruit will more than pay for the expense of treatment.

In 1891 Professor Green, of Ohio, found * that the increase per hundred bushels in the market value of sprayed fruits over unsprayed was twenty-eight dollars and ten cents for Benoni, twenty-four dollars and five cents for Northern Spy and twenty-six dollars and eleven cents for Newtown pippin, cider apples being raised at ten cents a bushel and the other grades for just what they brought in the market. These results were obtained by using dilute Bordeaux mixture. Professor Taft, of Michigan, in previous seasons, has found § from fifty per cent to seventy-five per cent more fruit free from scab on the trees sprayed with dilute Bordeaux mixture than on unsprayed trees.

In the light of our present knowledge of the nature of the apple scab fungus, and guided by personal experiments and those of other investigators, the following line of treatment is

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* Bulletin 9, 1891, Ohio Experiment Station, p. 207.

§ Bulletin 83, Michigan Experiment Station, p. 13.

suggested. Perhaps further investigations will discover something better, but the writer is quite confident that this treatment will give excellent results.

After the buds open and before the first leaves are half-grown make the first application, using either the ammoniacal solution of copper carbonate or dilute Bordeaux mixture. Mr. D. G. Fairchild found last spring that with pear scab infections begins the before the blossoms open, and the writer found that the same thing is also true with apple scab. The foliage and the calyx and pedicles of the unopened flower buds become thus early infected with the scab fungus. Spraying at this time is, therefore considered very important.

The second application, using the same fungicide as before, should be made after an interval of ten days and shortly before the flowers begin to open.

The third application should be made immediately after the blossoms fall, using also at this time Paris green or London purple for codling-moth. Many prefer to use the dilute Bordeaux mixture at this time because Paris green can be added to it without fear of injurious results, whereas if the ammoniacal solution of copper carbonate be used the Paris green must be used by itself.

A fourth application should be made after an interval of from ten days to two weeks, using the same material as before, including the Paris green.

After another interval of from ten days to two weeks make a fifth application, using the same material as before, including the Paris green. If it is desired to make further treatments after this time the Paris green may be omitted.

Mr. Ira Pease asked if kerosene emulsion could be used with any of the mixtures named?

Professor Slingerland.— So far as I know, no experiments have been tried in mixing kerosene emulsion with the Bordeaux mixture. As the emulsion at best is but a mechanical mixture which is easily broken up by foreign particles, it seems doubtful that the two could be mixed. The particles of lime in the

Bordeaux mixture would tend to do this. A little experimenting will soon settle the matter.

Mr. C. K. Scoon had used the ferrocyanide of potassium test in the preparation of Bordeaux mixture, as recommended in the paper, and had found it of very great practical importance because it simplified the preparation of the Bordeaux mixture. He did not try to weigh each proportion, but made enough at a time for ten barrels, without the copper, and then slacked enough to last for a few days, adding the copper and using the milky liquid. It was very quick and cheap. The experiment station was certainly practical on that point.

Mr. George Ewer asked whether it would be a fair test of the Bordeaux mixture to use on part of his trees and omit part? How far would the spores of the disease extend?

Professor Beach replied that that was the test he made, and yet there was a chance for great error. There was as much difference in the same variety in the same orchard between those that had been sprayed and those not sprayed. He advised members to look out for coincidents. The spores are light and float on the lightest breath of air, and can be carried for some distance, retaining their vitality till dried up by the air.

Mr. C. M. Hooker emphasized the importance of early spraying, being of opinion that the failures on his own place were attributable to late spraying. They had sprayed just after the falling of the blossoms and perhaps had not been as successful. They had found that very frequently they lost their entire crop by destruction of the fruit at the time of blossoming after it had set. Many orchards of pears were entirely destroyed soon after the fruit was out of blossom.

Professor E. G. Lodeman said they found much difficulty in getting to the portions of the trees that needed spraying, in consequence of not being pruned. Trees should be opened up so the spray can be got inside.

Professor Slingerland.— In regard to using the Paris green in the Bordeaux mixture, on the first application, when the buds are opening, I will say that it will cost but very little more to put in the Paris green, and it seems to be the only time when the bud-moth can be successfully combated.

[We obtained the formula for Bordeaux mixture, that members might have it in form for preservation. It is as follows:

"The formula for Bordeaux mixture as stated on page 616 of bulletin 35, New York Experiment Station, August, 1891, gives what is commonly known as 'Standard Bordeaux.' During the season of 1892, Bordeaux from one-half to one-third the strength of the standard solution has been used at this station. In other words, the mixture of six pounds of copper sulphate and four pounds of lime diluted to forty-four gallons, makes Bordeaux one-half the standard strength; and if diluted to sixty-six gallons, it makes Bordeaux one-third standard strength. Grapes, apples, pears, plums and beans have been sprayed with the Bordeaux one-third strength, while the Bordeaux one-half strength has been applied to raspberries and potatoes.

"In mixing Bordeaux the trouble of weighing the lime may be obviated by use of the following simple test, and a tub of fresh slacked lime can for convenience be kept on hand: Add milk of lime to the solution of copper sulphate and test it with two or three drops of potassium ferrocyanide in solution. If enough lime has been added the potassium ferrocyanide will not change color, but if not enough lime has been added the potassium ferrocyanide will turn to a dark reddish-brown color. By adding gradually more lime and repeating the test with potassium ferrocyanide, it is easy to discover when there is enough lime in the mixture. Since an excess of lime does no harm there is no danger of adding too much. Bordeaux must be kept constantly agitated when spraying in order to prevent clogging the nozzle and to insure uniform strength of the application."—SECRETARY.]

Shade Trees in City Streets.

By WM. McMILLAN, Superintendent of Parks, Buffalo, N. Y

Shade trees along the borders of the streets were at one time a distinguishing feature of American cities. But this distinction is not now as marked as it formerly was. Our example has been largely copied in the suburban districts of nearly all the rapidly growing cities of Europe. In many of them the street planting has been more thorough, systematic and successful than in any American city, Washington excepted. In the chief business sections of every large city the conditions are fatal to street trees. Where the population is dense, the traffic large, the atmosphere smoky and dusty and the sidewalk borders almost impervious to water, trees can not thrive or long endure. Even those which may survive for a time, as if defying the common fate, are cut down to give more room for the daily business of the streets. Thus even in the most fashionable residence sections of every large city fine avenues of trees are now rarely seen, except in the newer outskirts and adjacent suburbs.

But away from the larger marts of trade our early pre-eminence in street-planting is probably still maintained. Wherever the conditions are favorable our streets are embowered in foliage, and on every new street that is opened the planting usually keeps pace with the other improvements. We have many fine examples of this in all sections of the country, but we need not look far away for a model. This city of Rochester is as good an example as any. Perhaps no city in the country has had equal advantages in soil, subsoil, natural drainage, tree supply, good example and public spirit. If in summer we take a bird's-eye-view of the town from the out-look pavilion in Highland Park the houses seem to be nearly all hidden by the trees. The section where trees have given way to business is probably smaller than in any other city of its size.

In nearly all our cities street trees are set out and cared for solely by the owners or occupiers of the abutting property. Each man plants or not according to his own taste or interest in the matter. This devolves much diversity, inequality and incongruity in the selection of species, in age and size, in the distance from the curb line and from each other. Uniformity in these respects can only be obtained for any given stretch of street where the work is done by municipal authority. This method has been eminently successful in the leading cities of Europe and in Washington, where nearly every street that has been opened and graded has been systematically planted under the central authority of a special commission. But the general custom in this country indicates that the American temper resents official control of such matters. It is probable that the Washington experiment will long remain the solitary exception on a large scale. In any other city it would be difficult to organize a planting commission with the same practical knowledge and singleness of purpose among its members, the same prestige of authority behind it, and the same respect for the law in the community.

We have several examples, on a small scale, in cities where park commissioners have had exclusive control of the planting on certain avenues used as parkways. Where these have been of extra width, offering favorable conditions of soil and situation, the planting, as a rule, has been fairly successful, but where the ordinary conditions of street usage and sidewalk space have been encountered failure is common. This is due not only to the difficulty of securing favorable conditions of soil, moisture and space, but also to the lack of active co-operation and constant vigilance in protecting the young trees from damage, which can only be received where each abutting property owner not only feels a personal interest in his own street frontage, but entire responsibility for it. You may think such aid would be always available, but really effective assistance is rare. Many openly contemn the scheme of the planting and ignore the benefits they receive by it, apparently just because it costs them nothing. The rule that requires every man to sweep his own sidewalk is equally applicable to the care of the trees.

Few realize the constant liability to damage and destruction to which young street trees are exposed. Some idea of it may be gained by inspecting the trees on any given street, and noting how few show no sign of stunted growth, scarred trunk, mutilated top or blemish of some kind. The most common damage is the gnawing of the bark by horses, or of the branches, if within reach, but, up to a certain age, mischievous boys are far more destructive. If the sapling gets safely out of its swaddling clothes it is next attacked at the roots by trenches for sewers, gas pipes, water pipes, and electric cables, or by changes of line or grade in laying curbstones or flagging. In later years the largest limbs will be cut off to open a view, or the top be mutilated by telegraph linemen and their wires.

Again, under ordinary conditions, the trees suffer constantly from lack of moisture, because the pavement or the beaten ground sheds most of the rainfall; from lack of food, because the roots can not penetrate the hardened subsoil; from poison by gas, because the small service pipes soon become rusted through; and from want of air, because the soot and dust of the city stops up the pores of the leaves. The unhealthy condition resulting from these and other causes invites grubs and borers, bugs and caterpillars, scale, spiders and fungus, all in great profusion. In the streets these insect pests are safe from their natural enemies — the birds — and from the poisonous spray of the gardener's syringe.

This brings up the important questions: What kinds of trees are best suited to withstand these untoward conditions? What methods of treatment are most likely to protect them from injury and disease, and secure healthy growth and long life? Of course, no list can be equally suitable to all localities, and no rules equally applicable everywhere, or even generally acceptable among experts. But the good and bad points of certain standard kinds may be broadly noted, and good average conditions of cultivation indicated.

The trees most commonly used are probably the best under average conditions. Their presence in every town and their general appearance indicate special adaptability. "Nothing succeeds like success," and the points contributing most to this success are ease of propagation, cheapness of nursery culture, quickness of early growth, endurance under careless transplanting, prominence of good looks and absence of bad habits, the ability to pick up a living on a scanty diet, and patience under abuse of every sort.

The silver maple has apparently fulfilled these requirements, all in all, more generally than any other tree, for it is the one most generally planted. If, in rich soil, with sufficient moisture, its growth is often too rank for strength; it does not hold its head erect, and its long, slender branches do not bear well the strain of high winds.

The white elm is next in popular favor. In many of its traits it is far superior to the white maple. Its tall trunk, lofty head, wide sweep of the branches and pendent spray make it an ideal street tree, beautiful to the eye, and giving a generous proportion of light in its shadow. Wherever the subsoil is loamy or porous its fibrous roots extend deeply as well as widely, insuring a thrifty growth. It grows well in stiff clay if moist enough, but under a sidewalk that is rarely the case. Dry clay is as unfavorable to any root growth as is the most sterile hardpan.

The European elms also do well as street trees. The broader leaved species, known as the Scotch elm, has usually a higher and broader head than the English elm, but neither has the graceful form nor the open shade of the American tree.

The sugar maple is largely planted in the cities of the northeastern States. It is better suited to dry situations than the elms or any other maple, and its habit is always strict and compact. Its autumn color is a special feature.

The Norway maple has the same qualities in about equal degree. Its head is lower and broader, its early growth more rapid, but in our climate it is not so desirable.

The sycamore maple also grows rapidly, and becomes a large tree of sturdy habit in favorable situations. But it will not thrive without ample moisture in hot weather.

Our red maple is entirely unfit for street planting. The ash-leaved maple does better, but good street trees of this sort are rare except in the prairie States, where, under the name of box elder, it is the best and the most common street tree. In deep soil its growth, while young, is remarkably rapid.

In many of our northern towns the European horse-chestnut rivals the elms and the maples. When in full bloom it is gorgeous, but when the fruit is ripe it is especially liable to damage by boys threshing down the nuts. Its foliage is remarkably fine in the early part of the season, but later it is often much preyed on by caterpillars. In a dry autumn it blisters readily and is sometimes shed prematurely. Usually its shade is too deep for any green sward, and its formal outline is rarely relieved by any grace of form. The Ohio buckeye is not much used compared with the foreign species, probably because its flowers are not so showy, but its average habit is as good and its foliage is better.

Both the European and the American Lindens have been extensively planted, especially the former, though inferior in every respect except the fragrance of its flowers. Both do well where the soil is deep and moist and the atmosphere clear. But usually the growth looks stunted and the foliage is more ravaged by caterpillars than any other tree.

The white ash and the European ash are occasionally seen in good condition, but all the other species of ash are fit only for swamps. Their fibrous roots lie too near the surface and require too much breadth of space.

The beech tree has similar faults, with the additional defects that its early growth is slow, and it requires extra care in transplanting. The European beech is equally disappointing while young, but in good soil its roots do not spread so near to the surface and good stout trees of this species are sometimes seen. But like the purple-leaved and the weeping forms it is better suited to private grounds.

Walnut, butternut chestnut and every species of hickory, are all handsome trees of good size but rarely seen in any street, except in village roadsides. All require to be transplanted while so young and small that their protection until well established is very difficult. Even if success be finally attained, they will be seriously damaged every fall when they come into bearing, and so their doom is fixed.

Oaks require the same early transplanting and extra care for a long time. But in any city where they can be securely protected until of good size they endure the ordinary street conditions as well as elms or maples. Once well established, a black, red or scarlet oak will grow as fast as the average of other street trees. The habit is always good, pruning or thinning of the branches is rarely necessary, and the glossy foliage is a special attraction all through the season. The European oaks and our white oak make good street trees if well guarded during their tender years, but their growth is rather slower.

In certain sections of every town the poplars are still the popular trees. All are easily propagated, grow very fast, sell very cheap, endure the most careless transplanting, and thrive in spite of neglect or abuse. But for ordinary streets they are likely to become too large and their life is short. The Lombardy poplar, though a foreign tree, and not quite suited to our climate, is the most commonly planted. Its trim, erect habit adapts it to narrow streets, and if need be it bears well the most savage lopping of its branches. Where they have ample room to grow to full size, the white poplar, the balsam, and the cottonwood look well, and their smooth, glossy foliage is a special attraction.

But for foliage effect the finest trees are the tulip and the plane. In their native haunts no other deciduous tree equals them in size, or dignity. Fine examples of each are occasionally seen in our streets, but general experience seems to condemn them. The soft roots of the tulip tree make it impatient of careless transplanting, unless very young, and protection from severe frosts is necessary in clay soils until the roots get below the frost line. But once well established, in any favorable soil and subsoil, it becomes a noble street tree, well worth any extra care bestowed on it.

The plane tree is as easily transplanted as any maple, and if in good soil its growth for many years is as rapid as that of any poplar or willow. But mature trees are so subject to serious fungus blight that a healthy, clean-branched tree is rarely seen. Strangely enough it thrives well in European cities, withstanding the effects of smoke better than any other tree. In spite of these defects both tulip and plane deserve persistent trial and experiment.

Fifty years ago, during the silkworm craze, the Chinese ailanthus was extensively planted in the eastern cities. Its rank growth, sub-tropical aspect, exemption from insects, and its fresh foliage in spite of prolonged heat or drouth made it very popular. Then came a strange reaction, so strong that the tree is now virtually tabooed, all, apparently, because the flowers have an unpleasant odor. This odor has not a wide range, and it can be offensive only to an inquisitive nose that sniffs it at close quarters. Planted in ornamental grounds or near cultivated fields the tree multiplies so fast, both by seeding and suckering, that it is often a veritable nuisance. But no tree has withstood so persistently the onslaught of all the destructive influences of a crowded street. Where the subsoil is porous its roots penetrate to an extraordinary depth, and thus find food enough under the closest pavements and moisture enough during the longest drouths. There is a place for the ailanthus in every large city, and that (if you give it no other) is the place where no other tree will thrive.

Here and there we occasionally see a frontage, or even a whole block, planted with trees wholly unsuited to a stony pavement. Among these I venture to class white birch, magnolias, paulownia, yellow locust, honey locust, sweet gum, sour gum, weeping beech or willow, mulberry, cherry, and all kinds of pines, spruces, and such like. Some people are charmed by the novelty of the experiment; some are struck by the audacity of the innovation, and some shocked by the foolishness of the freak. Comment on each example is as various as the extremes of individual taste. "Did you see yonder avenue of white birch? What a beautiful border for a public street! Such a happy thought had a touch of inspiration! Ah, yes! What a fancy frill for a dirty pavement! How can you bear to see the 'Lady of the Woods' degraded to such ignoble use? Her white robe all frayed and soiled! Her 'fragrant hair' stained with soot and smelling of the gutter! Away with such defilement of angelic purity!"

And so the talk goes on. You can not please everybody. Follow your own bent.

So much has been said on so many kinds of trees that little space is left for comment on their general culture and care. This must be condensed into a few words on the importance of planting only young trees of nursery growth, of providing ample supply of good soil, of allowing sufficient space for the full growth of root and branch, of watering thoroughly for years, and of guarding from damage at all times.

Americans despise "the day of small things." This national foible is always prominent in the selection of trees for street planting. The general practice is to procure the largest trees that can be obtained, and conveniently handled. If nurserymen cannot or will not furnish them of suitable size they are procured from the neighboring woods, if possible. It is surprising and mortifying to every experienced grower of trees to see each spring the numerous wagon loads which countrymen bring in from swamps and thickets, and expose for sale in our streets day after day with little or no protection from sun and wind. They are usually much larger than the most overgrown nursery stock, and the younger saplings twice or thrice the height becoming to their age, but they are bought in preference to the nurserymen's "small fry." The only roots are a few stout prongs, and they are set out in the smallest holes that will admit them, with the tree tops left unpruned or entirely chopped off. They remain standing like bean poles for one or more years. Then they are pulled out and other bean poles stuck in their places. It is said "experience teaches fools," but on this subject they need many years of schooling, else the class always under instruction would not be so large.

Nurserymen preach against this practice incessantly. But the fools think they see through their selfish tricks, and are too wise to be gulled so easily. But they cannot see the patent facts that trees grown in nurseries have needful qualities of root, stem and branch entirely lacking in the spindling saplings that have struggled for life and light in a shady thicket. The nursery plant is forced into vigorous growth from the start by providing rich soil, ample space, frequent cultivation to induce fibrous roots near the stem, and special training of the plant to an ideal standard of strength and symmetry. When sold it can be dug up with most of its roots uncut, and the small wounds are easily healed. Thus the risk of death by transplanting is very slight, and with careful work there need not be much check to the tree, but yet the younger the better.

But, of course, after being planted the smaller the tree the greater the risk of serious damage by accidents that would be trifling to one of twice or thrice the size. This argument is the clincher in all discussions on this point. For this reason elms, maples, horse chestnut, poplars, and lindens are so commonly preferred, as they can be successfully transplanted in a much larger size than tulip trees, oaks, or any of the nut-bearing trees. Yet the rule holds good even in street planting that whatever kinds of trees be selected, the youngest that can be protected with a reasonable chance of safety ought to be preferred.

In street planting sufficient account is rarely taken of the facts that if no grade has been established the position may be too high or too low, or too near the future curb line. Or if the street be graded, of the fact that soil and subsoil may have been removed to such extent that the hole has to be dug in hard pan or some substratum equally sterile. In such case the quantity of poor ground that must be dug out, and of good soil substituted to secure something like natural conditions, is seldom fully appreciated.

Another fact likely to be overlooked is that an ordinary sidewalk sheds water like a duck's back, and special provision must be made to supply sufficient moisture during each season of vegetation for years. At first mulching is of great advantage to this end. But in dry weather an occasional copious watering should be given systematically until the tree is fully established, and in certain situations this must be continued to some degree perpetually. In all such operations the best rule is never sprinkle, always soak. Occasional saturation to the extremities of all the roots is better than frequent sprinkling.

Another common error is planting too near the curb line and too close together in the row. Any young tree within four feet of the curb is ten times more likely to be gnawed by horses than one twice as far back. The roots also should be considered and given a fair chance to spread on all sides. Ample distance apart contributes not only to the health and symmetry of the tree, but also allows a pleasant play of sunshine and breeze to the people on the street. Close planting may look best for a few years but the spread of the trees at maturity should always be provided for. The future cutting out of each alternate tree is a lovely illusion fondly embraced, but never realized. It may be a deeply inspired full-blown resolve, but it has no substance. It is only a soap bubble that floats before you for a moment and instantly melts out of sight, but in reality is a sad delusion, because it is rarely done, and never done soon enough.

Some protective guard against ill-bred horses, worse-bred drivers, careless workmen on the street or adjacent lots, and the daily run of miscellaneous accidents, is necessary for years. Nothing yet invented is conveniently applicable to small trees or always effective. A temporary railing on the curb line, though unsightly, is more useful than a casing for each tree. When the trunk becomes thick enough a strip of fine galvanized wire netting wrapped loosely around it as far up as a horse can reach, is cheap, serviceable, neat, unobtrusive, and can readily be adjusted to the growth of the tree from year to year. The damage done to street trees by horses and by careless usage of workmen about them is incalculable. Prosecution is useless, because an adequate penalty that would deter others is never imposed.

It is needless to speak to experienced fruit growers of the best preventives or remedies for insect pests of any kind, or for any of the various kinds of fungus. That work is as familiar to you as the alphabet. But systematic and effective treatment of street trees for any plague that may attack them is exceedingly rare and difficult. Some caterpillars are easily conquered if the eggs or the chrysalis be attacked in time, but this is usually prevented by stoical indifference at this dormant stage. Disease caused by smoke and dust is incurable. No species of tree is proof against these if their presence be nearly constant in large quantity.

Finally, the gist of the whole matter may be summed up in the obtrusive form of sententious advice. Select the kinds of trees that experience commends to you as most likely to satisfy your own taste, and to suit the conditions of soil and situation in your street. Select young trees only, of thrifty habit and good form. Furnish good soil in ample quantity at whatever cost or trouble. Give ample room for full growth on every side. Handle and transplant with proper care and skill. Mulch and water effectively until the trees be fully established. Guard from damage by any device that will serve your purpose. Fight to the death every pest and plague as soon as it appears. Give constant watchfulness to the trees' welfare, while you live, and impose the same duty by your last testament upon the successors to your trust when you die. "Eternal vigilance is the price" of every street tree.

Are the Varieties of Orchard Fruits Running Out?

By Prof. L. H. BAILEY, College of Agriculture, Cornell University.

Two years ago I presented before this society a discussion upon the general question of the running out of varieties, in which I reached the conclusion that plants grown from seeds constantly tend to vary or run out, as also do those which are grown from buds of highly developed or abnormal parts, but those grown from buds of normal or natural parts, as the orchard fruits, remain permanent. While my general conclusion, that some varieties run out and others may remain more or less permanent, appeared to meet with the approval of those who took part in the discussion, there was some objection to the statement that the varieties of orchard fruits do not run out, and I was cited to the fact that the catalogue of these fruits is constantly changing and that many of the varieties which were popular a generation or more ago have disappeared. It is my purpose at this time to examine more minutely into the permanence of these varieties of orchard or tree fruits. I must say, before proceeding further, that running out does not necessarily mean the deterioration of a variety, but simply a change or modification which obscures its identity; but inasmuch as varieties of orchard fruits — being propagated by buds — do not vary or change to any extent, the discussion now in hand really turns upon the question as to whether varieties may not wear out or be limited in duration without having passed by variation into other forms. Is the Esopus Spitzenburg apple, for instance, approaching the limit of its life ?

The most direct means of approaching the subject is through the historical method. What proportion of the varieties cultivated fifty or a hundred years ago are now known? If any of these old varieties are not cultivated at the present day, what are the causes of their disappearance? In 1806, M'Mahon catalogued fifty-nine varieties of apples for cultivation in North America. Of these, twenty-one were offered for sale in 1892. In 1817, William Coxe gave a list of 100 kinds of the best apples for cultivation in North America, of which forty were still offered for sale in 1892. In 1845, A. J. Downing described 190 varieties of apples, of which eighty-four are now offered for sale. The percentages of apples in these lists which have persisted to our time as commercial varieties are thirty-six, thirty-nine and forty-six respectively. In other words, from sixty-four to fifty-four per cent of them have disappeared within a century. Why?

1. Have they disappeared because of age? We do not know if any type or species of animal or plant is prelimited in duration. It is true that many of the earlier forms of life have wholly disappeared, but this disappearance may have been due to change of physical conditions, to which the organisms were subjected or to defeat in the struggle for existence, rather than to a wearing out or predetermined death. But even if species do wear out, the deterioration is so slow that it could not be detected in many centuries, probably; and it is fair to assume that any such tendency would be much overbalanced by the protecting care which man extends to all species or varieties which please him.

But there are now sufficient records to show that mere age of a variety counts for little or nothing. The White Jennetting apple was described as early as 1660 by Evelyn, and it is still grown in England, and Downing describes it fully in 1872. The Ribston pippin, which is probably the most popular apple in England, and which is well known in America, is probably about 200 years old. Its history is clear for more than a century, at least. The White Doyenne or Virgileau pear is over 200 years old, and although this variety has nearly disappeared in America, it has not run out, as we shall presently see. The Bartlett pear originated in 1770. The Green Gage plum was mentioned as early as 1629, and it was probably then an old variety. Similar instances are frequent, especially in European fruits. It is obviously a fallacy to say that certain varieties which were grown a hundred years ago have disappeared because of their age, when certain other varieties of equal age are still in profitable cultivation. About two-thirds of the varieties which M'Mahon catalogued in 1806 appear to have been lost, but the other third, which still persists, contain some of our best apples. These persistent varieties are as follows: Early Harvest, Summer Queen, Margaret, King, Bough (or Bow), Woolman's Harvest, Golden Pippin, Summer Pearmain, Fall Pippin, American Pippin, Orange, Vandevere, Newtown Pippin, Monstrous Pippin, Holland Pippin, Rhode Island Greening, Swaar, Yellow Bellefleur, Harrison, Hughes' Virginia Crab, Cooper's Russeting.

All these facts show either that age does not determine the virility of a variety or that varieties differ widely in this respect. If we can find satisfactory reasons for the disappearance of these lost varieties, we shall be forced to conclude that varieties of orchard fruits do not wear out with age.

2. Do varieties disappear because they are ill-adapted to new environments? Most varieties are more or less local in their adaptations; that is, they are not suited to cultivation over wide areas which comprise great differences of soils and climates. It must follow, therefore, that those varieties which are most local and which must require most skill in cultivation, must constantly tend to disappear, because they cannot compete with the more cosmopolitan sorts which, alone, nurserymen find it profitable to propagate. There is a constant selection among the varieties of fruits, which eliminates the least adaptive kinds. This fact is remarkably well illustrated in the relative behavior in America of the old varieties of European and American origin. In 1817, as I have said, William Coxe made a list of 100 varieties of apples especially commended for cultivation in North America. Of these, thirty-two are known to be of European origin and fifty-seven of American origin. In 1892, forty of these varieties were sold by American nurserymen, but thirty-three of them belong to the American group and only seven to the European group. In other words, only forty per cent of the apples of American origin in Coxe's list have been lost, while seventy-eight per cent of the European group have disappeared. In this instance,

therefore, very many of the varieties appear to have passed out of cultivation because they were not well adapted to American conditions. Coxe also listed sixty-five varieties of pears in 1817. Only four of them are now in cultivation and these are of American origin.

In 1845, there were 190 varieties of apples in North America. Eighty-seven of these are known to be of European origin and ninety-three of American origin. At the present time, seventy-seven per cent of the European lot have been lost in America. against only thirty-three per cent in the American lot. This shows that with the greater number of varieties which had come into use since the time of Coxe, and from which selections had been made, there had appeared more American than European varieties of merit for American conditions. In other words, American varieties are better adapted to American conditions than the European varieties are; and this fact accounts for the disappearance of very many of the apples in the old lists. There has been a constant tendency from the first towards the disappearance of the apples, pears, and all other fruits, of European origin, and towards the persistence of American kinds. There is a like tendency, very strongly marked, towards the disappearance of New England apples and other fruits from the prairie State and a corresponding increase in the percentages of fruits original to those regions. If a certain variety, therefore, as the Baldwin, disappears from large portions of a western State, this fact is an illustration of lack of adaptability to those conditions rather than of a running out. Many of the varieties which are commonly thought to have run out, are now and then found thriving in perfection in some local spot, showing that they still retain their pristine vigor. I may illustrate this point — disappearance due to lack of adaptation — by calling your attention to the fact that very many of the novelties of any year or decade fail to become popular because they are not adapted to a wide range of conditions, and some of them are almost immediately lost from this reason. This is a forcible illustration that disappearance and running out are very different matters. I am becoming more and more convinced that the study of the adaptations of varieties to conditions of soil and climate and other environments, is one of the most important subjects with which the horticulturist has to do, and that the neglect of it in the past has been a serious hindrance, and is a source of much confusion now that the least adaptive varieties are being sifted out.

3. Are more meritorious varieties supplanting the old? Yes; not only because they are better adapted to varying environments, as discussed in the last paragraph, but because varieties of greater intrinsic merit are appearing. This, in fact, is the chief incentive to the origination of new varieties — this expectation that we shall improve upon present varieties. All the changes in our fruit lists mean nothing if they do not indicate that we are progressing. Poor or indifferent varieties are introduced, to be true, but they soon find their level and disappear; and thereafter they are classed with those which are said to have run out. If every new country develops varieties specially adapted to itself, then it must follow that changes in the original fruit lists come most rapidly in such countries and that they will afford the greatest list of discarded varieties in any given length of time. Thus American fruit catalogues appear to contain few very old varieties as compared with European countries, even when allowing for the great difference in the age of the two countries. That is, varieties disappear more rapidly here; but a certain stability will come with age, as in other countries, and we shall then probably hear less about the running out of the tree fruits.

In 1892, 763 varieties of apples were offered for sale in North America. This great list must contain enough meritorious varieties to supplant all the old ones which have weak points. This leads me to say that nearly all the old varieties which possess superlative merits still exist; and this fact is proof that varieties do not wear out, but drop out. Any nurseryman knows that the Isabella grape has not run out, but that it is crowded out by Catawba and Concord. The Barnard peach, still grown here and there as of old, is driven out in nearly all peach regions by brighter and larger varieties. It would be but a few years before such peaches as Amsden, Alexander and Hale would disappear if a good variety of their season were introduced. You may be inclined to doubt this last statement — that nearly all the superlative old varieties still exist — and cite me to the fact that the Esopus Spitzenburg apple, Whit Doyenne pear and some others are little grown now. This leads me to ask:

4. Are not certain varieties peculiarly liable to disease or insect injury? It is well known that some varieties are much more subject to fungous and insect attacks than others, and when they are seriously injured year by year the cultivation of these varieties becomes restricted or may stop entirely. The Kittatinny blackberry, attacked by the red rust, the Iona grape, attacked by phylloxera, and the Fameuse apple, very subject to scab, are grown only in particular localities, and were it not for the fact that they possess superlative merits, they undoubtedly would have entirely disappeared before this. The White Doyenne pear has been almost entirely driven out by the fruit-cracking, and Flemish Beauty, but for the sprays, would follow suit. I am convinced that the chief causes of the failure of the Esopus Spitzenburg apple are the apple scab and insufficient fertility of soil, and the experiments in spraying indicate that this good old apple can yet be grown with satisfaction and profit. The decreasing popularity of the Spitzenburg is regarded as the chief contemporaneous example of the supposed running out varieties, but it is chiefly driven out by disease.

5. Do fashions and demands change and call for new types? Yes; and the chief reason why many of the good old dessert fruits are now unknown is because our modern demands are for fruits of great productiveness, large size, beauty, good carrying qualities and ease of propagation and growth in the nursery; varieties which least satisfy these demands tend to disappear. There is no money in Dyer, Jefferis and Mother apples so long as we have Baldwin and Ben Davis. The persistence of varieties is determined very largely by the money there is in them, and when fashions and demands change, the varieties change.

I may say here that the merits of many of the old varieties are exaggerated through rosy or unreliable memories. Scarcely a season passes that some one does not regret to me that the old

Summer Bell and Jargonelle pears have passed from cultivation; yet, as compared with even our commonest varieties, these pears are inferior. Memory is at fault.

It is by no means true, I imagine, that only the best varieties are in cultivation. Probably there are as good if not better varieties for particular purposes in the old or obscure fruit lists as those we now commonly cultivate. They may have been overlooked or neglected, or their merits may not have been properly placed before the public. We have more riches than we know. It is true, also, that it is very difficult to supplant a variety which has once obtained a firm foothold. Even a better apple than the Baldwin, for all purposes to which the Baldwin is adapted, would find great difficulty in dislodging it. The lists of tree fruits change more slowly than those of bush prints and vegetables, because the age of the plant is greater, and for this reason there are fewer epitaphs of dead varieties in the old orchard books than in the literature of the smaller fruits. It should be said, too, that there are fewer places to be filled now than there were a century or even a generation ago, when a few varieties had to do the duty for all demands. So, new varieties come in slowly in orchard fruits, and for this reason they are apt to stay when they do come, and the old varieties may be completely driven out.

The conclusion of the whole matter, as I now see it, is this: Varieties of orchard fruits, which are propagated by buds, do not run or wear out; but they may disappear because they are ill-adapted to various conditions, because they are susceptible to disease, and because they are supplanted by better varieties or those which more completely fill the present demands or fashions. The disappearances are, therefore, so many mile-stones to our progress.

President Barry.— A large number of fruits have been tested in this country and found to be very valuable, which are not known or grown to-day and probably never will be, for the reason that not sufficient interest and attention have been given to them. Take, for instance, the item of quality. In our own experience we have tested imported varieties of pears possessing the best flavor. The demand for fine-flavored fruits is quite limited, more regard being paid to appearance and size rather than quality. When people become more anxious about the flavor of fruit than they now are, some of these neglected fruits will come to the front. Some of the varieties I refer to are here on exhibition. Several of them can not be propagated by nurserymen very well, but you are all invited to test them for yourselves.

Mr. Ira Pease.— Is the Virgileau pear worth reviving? They are so full of cracks and scabs.

Mr. Willard.— I remember it as being one of the most valuable pears in this State. It is a sensitively organized fruit, and seems to have become more susceptible to disease than others. I believe a higher system of cultivation, both on this and other fruits, will tend to improvement. Mr. Geo. T. Powell.— The past year I have produced a third heavy crop of Spitzenburgs from the same orchard — three years in succession. The branches reached the ground, and the fruit lay upon the ground; and this from trees that, for ten or twelve years previous, had not produced anything like paying crops. Four years ago I commenced to apply to those trees about twice as much fertilizer as I did to any others — stable manure and hardwood ashes. In addition, we have persistently sprayed with Paris green and Bordeaux mixture; the last two years with the ammoniacal solution. The result has been that while heretofore the foliage was off the trees when the apples were picked, and the fruit was small and inferior in quality, now the foliage hangs after the fruit is picked. Some of the leaves, even to this day, still remain on the trees, showing, I think, that one of the reasons why the finest of all apples has failed is because its foliage has seemed more sensitive than other varieties, and, therefore, has suffered from fungous attacks, and the trees have declined. In none of my orchards have I had more luxuriant foliage than upon these trees, and I attribute it to the spraying. This is my experience, and I have great faith in the Spitzenburg, and I believe the same results can be obtained for the Virgileau.

Replying to a question, Professor Bailey said: The Virgileau is the same as White Doyenne, referred to in my paper. Flemish Beauty and Seckel can be kept clean. As a result of spraying, grapes that hitherto were supposed to be of no use are now grown with success. Spraying must be done every year, fruit or no fruit.

Mr. Hewson had half a dozen old trees Baldwin and Spitzenburg, which did not fruit. Spraying with sulphate of copper brought both foliage and fruit. He never fertilized.

Mr. Willard.— We have gained a good deal from the infusion of foreign blood, but we find, from what Professor Bailey says, that this foreign blood must all merge and become American.

How to Make the Growing of Small Fruits Profitable.

By C. E. CHAPMAN, Peruville, New York.

We are told to beware of the man with one idea. He is frequently narrow, often a bore, but generally "gets there," from the fact that he becomes familiar with the conditions necessary to secure success, and experience teaches him the cheapest methods. Have a specialty and allow nothing to interfere with it. Individuality counts in everything. You must get out of the rut if it takes a wheel. Get away from home! Study the methods of others and improve on them all.

Among my acquaintances those that are successful do not "bite off more than they can chew." Only a small area is required to obtain large returns, and the fate of the strawberry king of the west who said he would have "a hundred acres or bust," and busted, is worthy of study. The future profits depend on the vigor, growth, health and abundance of the plants. These conditions can only be obtained by careful, thorough, intelligent management. Everything must be done on time. Too much to see to, means extra cost and less crops.

Successful culture requires fertile, porous soil, which is full of humus. You must secure this, and it is necessary, even to go to the extreme of clearing off a forest, as a friend of mine did who is now receiving large crops. But I think land could be fitted at a less expense. Writers and speakers generally begin with the statement, that any land that will grow a crop of corn or potatoes is good enough for berries. This is a mistake. You can not get land too rich. When I went into Professor Bailey's department and saw a single cucumber leaf covering a square foot; when I saw

Mr. Blanchard's Snyder blackberries so loaded with fruit that it did not seem possible to find room to hang another berry, and was told later that $500 worth was sold from a half acre; when I knew of twenty-one dollars' worth of berries being sold from six square rods, I was astonished, and began to seek the cause. In each and every case the answer was excessive fertilizing with rotted manure. Note, please, rotted manure!

Land should be covered with manure and planted with some hoed crop. This clears the land of weeds, white grubs, and distributes the manure evenly through the soil; the soil becomes blacker and warmer; the added humus collects nitrogen, sets potash free, and admits air, which is an aid to nitrification. The land should be seeded to clover. The second year, the soil being filled with clover roots and two heavy top dressings of manure, is in good condition for berry growing. Storer says: "The vigor and future usefulness of the plant is largely determined by the character of the soil and amount of available fertility stored in it." Vigorous plants resist disease, and I prefer, at present, manure to Bordeaux mixture. If you wish to plant next spring, plow deep trenches and fill them with manure, cover by cross harrowing. Some fruits make enormous growth just before ripening, and plenty of nourishment and water must be furnished. The clover culture puts the soil into the best mechanical condition to provide food and retain water at the least expense of any known method, because the crops pay for the labor.

When one stops to think that there is not enough rain falls in any one year, to grow, successfully, any crop, if it were not for the water returned from beneath by capillary attraction; that fruit is mostly water; that plants take food only in a liquid form, and that must be diluted from one to two thousand times with water, the importance of having the soil in its best condition to assist nature becomes apparent. You must set your water traps going and cover them with an earth blanket. Cultivation keeps the soil fine and firm below and water rises readily. Hold a lump of loaf sugar so it will just touch the coffee and see how quickly it rises. Constant cultivation keeps the surface soil fine and loose. This prevents the escape of moisture and also prevents the heat of the sun penetrating to it. An increase of moisture is not the only benefit received from constant cultivation. The stirring of the soil brings new sets of atoms in contact and the resulting chemical action makes more fertility available. Tillage is manure, and, I would add, moisture.

Wherever water can be obtained the beds should be so planned that they can be irrigated. A friend gave four acres one copious drenching during a spring drouth and had the only decent crop of strawberries in that section. They sold for fifteen cents per quart. The raspberry is very sensitive about having wet feet, and many a good average is spoiled by a slight valley which would not need a drain for any other crop. The importance of good plants is appreciated when one is obliged to apologize for the thin condition of his beds after a whole season's experience in resetting, nursing and coaxing of purchased plants which were dried up when received To secure largest returns with the condition of soil I have described, the plants should occupy every inch of soil. With all respect for the trade, I would advise the growing of your own plants. A few plants of a new variety will soon give you plenty of stock. The purest stock from which my plants are grown are not allowed to bear fruit and produce extra strong plants. My Crescents have been carried in this way for ten years and are better than the original plants.

The system of pruning adopted has much to do with the results. I never succeeded in growing a profitable crop of blackberries until I kept them pinched back two or three feet. Black raspberries should be pinched off at eighteen inches. If left until higher the stock becomes woody and instead of healing quickly rots back and often becomes diseased. All weak, small or unhealthy plants should be carefully culled out. Almost every week one meets the advice to stake and wire raspberries; this is a needless expense. There are a hundred little economies of practice which enables one to meet competition without loss. The above is one. Another is the rowing of berries both ways. By this method, from repeated experiments, I have proved a saving of seven-eighths of the time required to hoe beds which were cultivated only one way. When it is time for the runners to root, stop cultivating the short way and you have a matted row. Immediately after fruiting, by removing the old wood from the raspberries and blackberries, one can cultivate both ways without trouble. This levels down the ridges, fills up the gutters between the rows (which are unavoidable, especially where the land is hilly), and saves lots of hand work. One bed of black raspberries gave seven good paying crops by this treatment. I saw a large field on my way here that looked as if laid out for a canal. Level culture pays best with berries as well as with potatoes.

A third item is the training of hired help to do careful work. A little kind showing, a little judicious taffy, carefully fed, transformed a careless bungler into a proud, skillful cultivator, who has saved me many a dollar's worth of time. The slowest man in the gang sets the pace. Adopt the factory system — divide the work. Separate the men and put each man where the work will show for itself. Take a pride in having things "move," and your help will catch the fever and do you much more and better work. Have everything in its best form. When once a bed begins to fail plow it up. It costs as much to care for a bed which yields half a crop as for a new one which is at its best. From long-continued bearing the plants become enfeebled, and are susceptible to disease. A good field was ruined by having an old diseased patch left next to it that did not yield ten bushels. High averages and big profits are only obtained by having everything in its prime. Possibly the old strawberry bed may be thrifty enough to keep for a second crop. Mow off the foliage close to the ground, rake up and burn. Plow between the rows and turn a furrow from each side on to the plants; cross harrow until the plants begin to show; top dress with a good coat of rotted manure, and in fall pull out the larger weeds. There is no old foliage to rust and blight; insect foes are destroyed; small weeds are smothered; new rank foliage is secured — all at a small cost.

But very few use as much mulch as they could profitably. The strawberry plants should grow up through it. This keeps the berries clean and the ground moist. I do not believe it should be raked off in spring. Mulching can be packed around raspberries and blackberries so weeds can not grow. The fruit will be larger, and the soil is benefited by shading. Do not, as is often advised, mulch with horse manure. The resulting of timothy-seeding, if the horse is fed hay, will run your bed. Use swamp grass, buckwheat straw or wheat straw that has been picked over by cattle and well shook up. Plant corn in the row late in the season, and in the fall breaking down on the plants is recommended — I never have tried it. The mulching is of great value in preventing alternate freezing and thawing in spring, and can be applied any time when the ground is frozen.

Make the most of the home market for it pays the best profit. If possible, retail your own fruit. When once the route is established, the same as the milkman does, a boy costing you seventy-five cents per day, with one horse and wagon, will dispose of eight to twenty bushels of berries that would not pay express charges if shipped. The fresh-picked fruits make their own market, while the stale fruit from the store disgusts the eater. The consumption of fruit is double the amount it was when placed with storekeepers. One family would not buy any berries. The gentleman always said, "We do not like berries." I could not understand why, and resolved to test them. I stopped one afternoon and handed him a box of berries, saying, "I wish you would have these served for supper and give me your opinion of them. They are said to be superior by some, and I am anxious to get an opinion from some one who is not fond of fruits." The next trip the whole family was at the gate waiting for more. You would not mistrust that the variety was Crescent, if you had heard the praise. They did not know before what a dead ripe, fresh berry really was. From that little venture I sold them that season four bushels of berries for table use. Produce good fruit; sell when at its best. Put it in attractive shape and get people "introduced to it," so they will know what it is and where to find it, and you can double the demand in any country town. Some sections of the State can ship at a profit, but in many, because the fruit ripens at the same time, the home market is the only profitable outlet. I am able to retard the growth of the strawberry with mulch a few days and thus avoid selling in competition with the Cayuga lake berries. This means an increase of four to six cents per quart, but were I to ship to New York at that time they would not pay for picking. Study well your location and markets, and plant understandingly.

I have said nothing of diseases, because there are those present who are making them a study. In the short time allowed me I could not enter into detail. I have indicated a few things which I consider essential to success. Did you ever have your picture taken? The artist raises the slide, drops it, and there is an impression on glass; but you can not see it until he applies the acid and brings it out. The speakers here to-day are making impressions on your brain. They may seem improbable; you can not see it. Do not condemn them until you have applied the acid of experience and then hold fast to the good.

American Fruits Abroad.

By MICHAEL DOYLE, Rochester, New York.

The season just closed has not been an auspicious one for fruits of American production in foreign markets. Notwithstanding the rather meager crop in all of the producing sections shipments of apples particularly were unusually large, made at a moment when the aggregate receipts in the leading foreign markets were altogether too large for the consumptive requirements, and the result a glut and a sacrifice of price in which the intrinsic value of the fruit was wantonly ignored.

During one week the receipts in Liverpool were some 50,000 barrels, and, as it appears to be the mad desire to sell the fruit immediately after landing and realize as best they can, choice, well-packed and selected fruit, did not, in many instances, bring much above the freight and selling charges, some of the best marks and qualities netting not more than seventy-five cents per barrel.

Canadian competition for business, in the markets of the United Kingdom especially, has largely produced the extremely low prices and glut referred to. Debarred from our markets in the United States, and with only moderate requirements at home, the fruit growers of the Dominion are compelled to ship to English markets, or allow their fruit to remain unpicked or decay in their orchards. There is really no safety to the grower in the United States to ship to England at the present time. The system of selling is pernicious and unbusinesslike, and, even under the most favorable conditions and circumstances, the risk is so great that it is safe to say there are very few in the business at the present time who have ever made a dollar, or any large amount, out of the business, on a consignment basis to the other side.

Not until the merchants at the principal ports abroad will have adopted the methods employed in our country for the proper and judicious sale of our fruits, the necessary warehouses wherein they may be retained without marked deterioration until required by the trade, and until greater intelligence is exercised and displayed in the grading and distribution of the fruit, can there be any advantage or profit to the American shipper.

Our home market should be cultivated to a greater extent than at present. The surplus varieties and quantities should be utilized for the preparation of the various fruit products for which there is a large and steadily increasing demand. A number of our manufacturers are now making some of the finest grades and qualities of marmalades and jellies produced in the world, which are appreciated by the consuming public to such an extent that the importations from abroad have rapidly decreased during the past few years. Our American jams and marmalades are every way superior to those of foreign production, not only in quality, but in flavor and intrinsic merit, the quality of the fruit employed in the preparation of such being every way superior to that used abroad. The consumers are rapidly realizing this fact, and the result is a very marked increase indeed in all such products of home production, which is not only gratifying to the manufacturer, but must redound to the benefit also of the grower and producer.

The total shipments of apples from three of our leading ports, New York, Boston and Portland, from the opening of the season to January twenty-first, aggregated some 948,729 barrels, showing a shortage of 193,071 barrels, when compared with the shipments of the same period of a year ago from these ports. The largest portion of the shipments was, as already described, of Canadian production, and the tendency with Canadian competitors will be to market their surplus in British markets at the very best obtainable values. The area devoted to orcharding in the Dominion, principally in the Province of Ontario, has increased very largely during the past ten years, and we must expect a sharp active competition with consequent lower prices in all of the foreign markets in which our Canadian friends may appear as competitors.

I may say in this connection that the demand for American apples is constantly increasing. Only a short time ago we received a cable order for 1,000 barrels of the Baldwin variety for shipment to Berlin, Germany. The bulk of this business has been done heretofore by Liverpool houses, but continental buyers are now desirous of forming connections directly with the shippers in the United States, and the results obtained in their markets have been every way more satisfactory than in those of the United Kingdom. Almost all of the table apples found in the large cities of Europe, such as Paris, Hamburg, Berlin, Vienna, and many others, are of American production. Our fruit is not only more showy, but possesses a more delicate flavor with a finer bouquet, which makes it every way more preferable than the native fruit, which consists largely of semi-cultivated varieties that are almost entirely used for cider and other purposes.

Perhaps one of the most injurious factors against American fresh fruit is the charge, repeated and reiterated with alarming frequency, of the danger to health from the use of insecticides in the protection of the fruit in our country against destructive insects. Although proved false and baseless by the commission instituted to inquire into the matter carefully and fully by the commissioner of the Department of Agriculture, these charges appear regularly in some of the more important of the English commercial and horticultural journals, and even lately were printed by the continental press; so that the belief has become very general indeed, which is most unfortunate, that our fruit is tainted with dangerous insecticides, which may be baneful and pernicious to public health. Nothing should be left undone on the part of the growers and merchants to counteract and nullify these reports. So many articles of American production and manufacture have been affected and debarred from European markets by reason of such wanton reports that early action should be taken in order to stem the current of that feeling so as to prevent it from being incorporated in any legislative restriction which might debar our products.

The restrictive measures against American dried and canned fruit appear to be steadily increasing. Protests of individuals and even of our department of State appear to be of little avail. Germany has not only increased her duties upon fruit produced in America, but the vigilance of her police department has been taxed to find something upon which to base the prohibition of selling, and to prevent its importation.

To illustrate: A few years ago a number of German manufacturers were induced to try at very low prices the product known as "apple waste" in our country, the refuse of evaporated apple, the dried cores and parings, and with such good results that an important business seemed within easy reach, one firm taking some fifty carloads the second season. Now, the German government found through the scrutiny of the hypercritical official, a few pieces of sliced apple mixed with the waste, and taxed the product with the duty, the same as that on evaporated apple, which is equal to the value of the article itself, and the result is that the business languishes and the incentive for its use has become entirely destroyed. Not only this, but the government threatens and has begun to commence suit against such houses as unfortunately had used the fruit, for the total amount of back duty which they failed to assess and collect.

Evaporated apple, which forms a large portion of the exports of dried fruit from our country, both in volume and in value, is almost unsalable in many markets in Gemany, and the business with that country shows a very heavy decrease and decline each season. It was formerly our best market, but the rather specious plea has been put forward that because the fruit has been cured and dried on galvanized wire trays it has become tainted by certain metallic oxides, so as to be prejudicial to the health of the people. This, notwithstanding the fact that of the tens of thousands of tons made, purchased and consumed in this country as well as in other European markets and countries, not one authenticated case of illness resulting from the use of fruit has been reported.

It is almost impossible for dealers in that country to sell this class of fruit now with any safety unless they possess a certificate from the German chemists showing that it is absolutely free from zinc or other metallic oxides. The outlook for business is not very encouraging in the markets of the German Empire, and a still further decrease in trade may be expected. A very strong protective feeling exists at the present time, particularly in South Germany, and it is to this, more than the presence of any real danger, that the agitation against American products has reached its present height and extent. It is chiefly in the organs of that section that the most violent and unwarranted attacks have appeared. Argument or remonstrance is of little avail in dealing with the ordinary German government official. They know all worth knowing and many of them are above enlightenment. If the business is to be continued it will have to be done perhaps in the same manner as the exportation of meat products is now conducted, that is by government inspection in our country with proper certificates attached to the cases or goods showing them to be free from anything injurious to health.

There is every reason to believe that the recent high duty enacted by the Frnch government will be modified so as to admit of a larger and more important business with that country. At present the French markets are taking the lowest grades of fruit produced in this country in very large quantities, and it is the only country in which can be marketed to good advantage and at a fair profit the refuse products of our orchards. The demand is constantly increasing there, although the business of last season was very much less than of any year during the preceding five, the very poor quality of the shipments of a year ago explaining the scanty demand.

For some time past some of the manufacturers have sought to retain the maximum quantity of water contained in the fruit rather than eliminate it, which is necessary if the process of evaporation be conducted properly. The result of this poorly cured and inferior fruit is that with the advent of warm weather it ferments and deteriorates rapidly, proving, in many instances, a complete and total loss, which is most discouraging to the French dealer and manufacturer, and in many cases has induced some of the most important houses to refuse to handle the goods on account of the great risk in the purchase and sale. This can be obviated by making a thoroughly-cured, well-prepared and standard fruit, which will have its effect by enlarging the markets abroad.

The business with France in these waste products amounts to about $500,000 annually. This is increased by French thrift to almost $1,000,000, a large portion of which could be saved by our people were they possessed of the skill, the knowledge and the persistence of the French manufacturers; for all of these products can be utilized here to equally as good advantage and profit as in France. There is every reason to believe that, with proper care in the preparation of our fruits, the markets in France are capable of more extensive expansion, and it is important that the producers of this country learn the qualities most suitable for the trade there, preparing same in such a manner that they can be used without loss to the manufacturers abroad. The chief utility of this fruit is that it can be used at any period of the year, while the use of the fresh fruit is limited to the autumn season, when people are pressed with other work, and perforce a large portion of the fresh fruit is wasted for the reason that it can not be all used on account of the limited capacity of the factories within a few months. A much finer quality is produced from American fruit, and this will give the products of our orchards the preference as against almost everything of European production.

It would be well for our people to study the methods employed by the French syndicates, of which there are a dozen or more. Their object is to facilitate not only the production, but the sale of all of their products by judicious distribution at remunerative prices in the different markets in France. All of the leading fruit growers and horticulturists of the country are members of these societies. Valuable information is imparted to the members as to fruits most profitable and in greatest demand, as well as the markets in which the best prices may be realized. By acting in unison, and measuring the wants of the consumers, there are very few gluts and nothing is wasted.

The tendency of the age is to co-operation, and the system adopted in France could be employed to much greater advantage in our country. What our people and producers really need is reliable information as to the fruits desired by the people, with a knowledge of the best markets of our country. The present system of disposing of orchard products is cumbersome and wasteful. There is very little intelligence or business acumen displayed in selling. Almost any movement in the direction referred to will be productive of much good and the growers and producers will share it in the largest measure. We must watch our own markets more closely. The business with foreign markets has about reached its maximum development. Restrictive and prohibitory laws are now in force in many of them, and with only few exceptions the business is conducted at such a peril and with such risk there is but little hope that it can be enlarged and still continue profitable. We should seek the foreign markets to dispose of our surplus products, keeping our best grades and qualities for the home trade. By such a course it is my opinion that the very best results can be produced and the fruit industries of the country placed on a firm and substantial basis.

At the present time the laws of many of our States afford a greater degree of protection than heretofore to the producers of fruit products. The laws at present incorporated in the statutes of New York relating to the sale of apple cider and apple vinegar have driven out of our markets the specious compounds which not only demoralized the market but proved as pernicious to the consumer as injurious to the fruit grower. It is safe to say that these laws have added at least ten per cent to the value of every orchard within the confines of the State of New York. I am happy to state that several of the western States are following the example of New York.

These laws, when properly enforced, will produce a most salutary effect, and the result will redound to both the health and profit of consumer and grower. All should join in a movement of this kind, and aim not only to enforce the present laws, but to suggest others which will protect the entire community. Fruit products were never so generally used as at the present time for alimentary purposes, and the outlook, if not favorable abroad, is about all that could be desired in our country. We are entering the period when orchard values must increase, but such will be measured by our activity and zeal, coupled with the skill and knowledge employed in the preparation and distribution of these products.

Orchard Insects.

By WILLARD L. DEVEREAUX, Clyde, New York.

Once an orchard is planted, cared for, and hopes of profits and benefits built thereon, no one will allow cattle and horses to run over, trample down the trees, browse off the tender branches, or devour the ripening fruit. Neither will they allow man, friend or stranger, to carelessly or ruthlessly destroy branches, twigs, blossoms or fruits. If a hatchet, a cherry tree, and a little son, should join to make an historic incident in any father's orchard, unless, indeed, veracity and dejection should meet and aid self-control, the incident would be apt to be too lamentable to ever narrate.

How can we, then, allow various small destroyers and despoilers to enter and cause wholesale destruction? We confess we are helpless. That is all there is of it. The fruits of study and experiment, applied in practical measures, have helped us, and will, it is hoped, drive all the trespassers out.

We must be bound to one rule — that whatever gains entrance to our orchards, working injury to tree or fruit, is a trespasser; and a trespasser in one orchard is so in all — endangers all.

By carelessness and ignorance many of our injurious insects have been introduced here, and given the best sort of a chance to multiply. It was observed some time ago, that trans-Atlantic insects, once being introduced, multiply to the proportions of a scourge. Quite the same result comes of some American forms, originally in small circumscribed districts. Nearly all these species seem to be initiated into exuberance through an inclination to multifarious pabula, and hence to a modification of habit. They seem to spread out in every way, both in numbers and size, and in vigor and general pestiferousness. They beget new tastes and new habits.

It is supposed that fundamentally — and it is uniformly a rule — each species of insect is habitually confined to one kind of food — the vegetable feeders living on one kind of plant, or the plants or fruits of one family or section of family. And the habits, the ways of feeding and sheltering, and concealment, are quite alike for all the species of insects in each family or even larger division. Exceptional species would seem to point out their acquirement of a gradation out and away from the cognate.

The codling moth, the apple worm, is one of a modified habit, evidently. It belongs to the leaf-rollers — Tortrices. Modification of form and habit is very common among these. Forty named species have been reduced to one; and, in another instance, twenty-five supposed species prove to be all varieties of one species. These insects, these worms, are wont to attack buds, blossom buds, and young leaves, as the eye-spotted and other bud moths of the apple and pear; as also the leaf-rollers like the oblique-banded (Cacoecia rosaceana) which sometimes eats the peel of the apple.

The codling-moth, in the beginning of its worm life, has a true leaf-roller habit; but finally adds that mischievous habit of boring into the fruit, just as other species of bud worms have added the habit of boring down the center of the twig.

The apple-moth lays her eggs naturally at the calyx of the apple, but often on stem and side of apple, close to sheltering leaf. In any case, the worm changes about and furrows the peel, feeding as a leaf-roller for some little time before entering the fruit, and this is why spraying with poisons is effective. These worms having a chance, show off their leaf-tieing habits by sewing a leaf down close to an apple, and there, under cover, feed upon the peel much more. I once obtained one which reached maturity without entering the apple at all, pupating and emerging a moth from the leaf-cover. It is but a short step from feeding in concealment in buds and leaves, to that of the fruit. We may readily surmise the apple-worm was originally a bud-worm.

Fruit-growers have no more troublesome pests than the plum curculio. It is so because of its variety of foods and consequent abundance. It has spread out its choice, until it may be counted an enemy of every fruit of tree or bush — the cherry, plum, apricot, peach, apple, pear, quince, Japan quince, gooseberry, grape, walnut, and hickory nut, tree foliage, wood, black-knot excrescence of trees.

Of the thirty or more species of Conotracheli in this country, none are known to live on a variety of plants or fruits. The C. juglandis of the black walnut has not overlapped its single food limit. C. arataegi has fed rarely on other pip fruits besides the haw. We are bound to believe there was, in the long ago, some single primary food and host plant for the plum curculio — (Conotrachelus nenuphar). Very likely it was the cherry, and to-day it is the real old nest and prolific breeding ground. The cherry is the tree to spray from the very first. Egg laying begins on the cherry, and is continued in abundance on the plum. The early ones, and the most of the curculios, have laid the greater part of their store of eggs before the apples and pears are attacked, and though they sting — that is, make the crescent cut with their beak in about every other apple and pear — yet a small percentage of eggs are laid, while of the egg hatching many of the larvae perish in the apple as in an uncongenial feeding place.

From these attacks, by what we must consider an extraordinary or acquired habit of the curculio, apples and pears are caused to fall off in the young stage; caused to decay; caused to be blemished with russet scars; and caused to be distorted in growth, without necessarily a single egg being laid, or, at least, a larva maturing. The apple and pear crop suffers damage from this cherry and plum insect nearly to the same extent as from the true apple insect, the codling worm. Spraying seems to be an established good measure, but I can not detect that many are poisoned. It certainly does not reach the egg and worm.

Another trespasser, with an additional habit, in the orchard is the snowy cricket, so hurtful to the raspberry and grape vine, in the canes of which it thrusts a long double row of eggs. It follows the same method in the stems of tobacco, the sun-flower, hollyhock, and other flowering plants, besides many weeds. This cricket, later in the season, repairs to trees. Packard records them boring into the corky bark of the elm in the southern States, inserting its eggs irregularly, not in regular series as in grape, which agrees with my announcement of its habit in the apple trees, first given in 1888, before this society. I think they abound in the apple more than any other tree. The eggs, the last of their store, are laid quite sparsely, but every oviposition, every boring made for egg deposit reaches deep into the branch, and always causes an injury leading to impairment and death of the limb. Trees standing near brambles, raspberries and grapes are damaged the most. Fighting the pest must be done in destroying affected canes of raspberry and grapes. Parasites, and especially rapacious insects, are of the utmost service here, as I have proven with the cricket catcher — a sphex wasp.

Much more confidence has been placed in schemes for colonizing beneficial insects in our orchards since the achievement of Dr. Riley and his special agents, in the importation of the Vedalia lady-beetle and other friendly insects. It is not an empty fancy to suppose that each species of injurious insect will ultimately be subdued by other forms of insect life. Insect eat insect. Prof. Hopkins, of West Virginia Experiment Station, is now engaged in importing and colonizing the European bark-beetle destroyer (Clerus formicarus) to stay the destruction of evergreen trees. Probably this imported species would do immeasurably more service against bark-beetles of fruit trees than our native Clerii.

We have a rapacious ground beetle, Plochonius timidus, which has evidently quite recently acquired in its warfare on caterpillars a tree-climbing habit. The "web-worm" tiger, is the name Miss Murtfeldt has given it. It devours all the web-worms on the trees in the Mississippi valley.

There is a well-known, large and handsome ground beetle, the Calasoma sycophanta, in Europe, so plenty, and so entirely a tree caterpillar hunter, that it has saved whole forests. The late Rev. J. G. Wood wrote, "It is not too much to say that but for the calasoma the fir-tree would be extinct in many places." They could be colonized very easily, and would most certainly destroy the apple-tree tent-caterpillar, gypsy moth and web-worms.

A Member.— Is it advisable to spray for curculio on the cherry?

Mr. Devereaux.— Certainly.

Blackberry Culture.

By J. M. MERSEREAU, Cayuga, N. Y.

The culture of the blackberry in Central and Western New York has received less attention, as a berry for market and also for the garden, than any of the small fruits; but with the advent of improved mode of culture and increasing demand for market, the planting is being more extended. In our first plantings we had success and failures. I will try to explain the mode with which we have had the best success.

First.—It is essential to have a suitable soil. Moist, gravelly loam is best. Have the ground well prepared. Mark out in rows seven or eight feet apart; then plow a furrow six or seven inches deep following the mark. Scatter stable manure in the furrow. Set plants two and one-half to three feet in the row. Cultivate and hoe to keep all weeds subdued for the first year and obtain as large a growth as possible. Pinch off the tips at two to two and one-half feet. It will be necessary to go over them two or three times. The second year trim in side branches to one foot. As soon as ground is dry enough, plow four inches deep, turning the furrow to the row. We use a one-horse nursery plow; then cultivate well balance of the season; also tip them at two and one-half feet. Third year cut out all old. Cut side branches, leaving twelve to eighteen inches. Plow from the rows early. Level with cultivator. Plow to the rows about the first of June. Cultivate as often as necessary afterwards.

By this way we cut off all sprouts between the rows. The hoeing or grubbing should be done early, before sprout starts and can hoe again after sprouts are up. It is a great benefit to mulch first of July with straw or coarse manure to retain the moisture. After this plow the same as third year and leave the mulch. Cut weeds out of the rows. I sometimes use a sickle; and if your work has been well done so far, the plat will not need hoeing again and will be good for twelve years. I have one nine years old, will be good for five more. Don't dig plants unless you need them for a new plantation, as you will destroy one-half of the root all beyond the plant dug. Cut off the needless sprouts as you would a weed. The roots run about six inches deep. We are careful to keep plow above them. For garden culture would recommend planting in one or two long rows, instead of putting them in one corner of the garden and let them go as they please, as many do. As to cost of planting and cultivating one acre, the first year a row of potatoes can be grown between the rows which will pay all expense. The second year should yield fifty bushels per acre, which will pay expense and a good profit. Third year should yield from 100 to 200 bushels; proceeds amounting from $300 to $500. I have had good success planting in an apple orchard; the extra culture helps the apple crop and berries will do nearly as well; have realized, after paying expenses, over $200 per acre, besides having seventy-five barrels of apples. Varieties: The Snyder has done well; only objection it turns red after picking; we cover from light as soon as possible after picking which prevents it in a measure. Taylor is two weeks later on the market; before you can pick any, it holds on late; is good quality. Minnewaski has done well; berries large, hold their color after picking; a little soft, sell in market for more than Snyder. The Ancient Britain is a good variety; S. B. Willard says the best. Erie not hardy; sour and soft; no good. Kittatinny good, but not hardy. Wilson, Jr., and Early Harvest not hardy. The Ohmer, a new variety, originated in Champaign county, Ohio, said to be hardy, late, large, productive and of the finest quality for the market. There has been an increased demand every year, and prices have been high. This year eighteen cents to ten cents; average twelve cents for their crop, and the probabilities are that the supply will not keep up with the demand. It is with me the most profitable of the small fruits. My neighbor, Mr. Anthony, has two rows five and one-half rods long; one the fourth crop; the other the first. Picked seven bushels, 224 quarts, sold them for ten cents per quart, twenty-two dollars and forty cents; that was less than the market and that was at the rate of $681 per acre. What can be done on one-thirtieth of an acre can be done on an acre.

Mr. C. M. Hooker.— Snyder has proved most profitable, in all respects, with us. Ancient Britain, an old variety, is of good quality, hardy and productive, but the main objection to it is its lateness; about size of Snyder. Snyder is hardy and productive; its main fault, for market value, is its turning red, grocerymen not liking it on that account. Kittatinny, Lawton and Minnewaski grow too large and rank with us, and are not hardy. Agawam is profitable, very sweet, and liked by grocerymen; hardy, but not so much so as Snyder. Of Erie we never got a good crop; too tender. In years when peaches are abundant it is difficult to dispose of a large blackberry crop. Two seasons ago we could not sell at four cents a quart and so ceased to pick. Last season they paid well because peaches were scarce. I find it is the best, in growing fruit, to have a general assortment, large and small; everything that can be grown to advantage. If one fails something else will succeed. That is the only way we can make money in fruit growing.

In reply to a question in regard to Early Cluster, Hon. J. H. Hale said: We have attempted to grow it for some years and it has proved entirely unsatisfactory; is not a good grower and produces but little fruit. Snyder has proved good in all sections; my experience has been that with liberal culture and feeding it is inclined to overbear. Several years ago I thinned the blackberry, cutting off about one-half of the bloom; and later, when the fruit was two-thirds grown. It increased wonderfully the size of the fruit that was left, and while I made no accurate estimate, I am of opinion we had fully as much fruit and of larger size and better quality and appearance. The Snyder will pay for a fancy market. Erie, with us, has proved very satisfactory; but is abominable in quality. Still people will buy it. Minnewaski is a little more productive, not as large, but of little better quality; destined to be, for most northern countries, the most profitable. But for my own eating, give me Agawam.

Question: How about Wachusetts?

Mr. Hale.— One of the best; but, under the best conditions, a shy bearer. On deep, rich soil, with very liberal manuring, it is a moderate bearer of very delicious berries; sells where no other berry will, being of much higher grade. I do not believe, however, you can grow blackberries with profit under the method of planting recommended by Mr. Chapman in his paper. My best results have been by planting in hills seven feet apart.

Small Fruits.

Hon. J. H. HALE, South Glastonbury, Conn.

The remarks of Mr. Hale on this subject were, as in his address on "Peach Culture," extemporaneous. He said the papers he had listened to had given a pretty good insight into the methods of cultivation of these delicious small fruits. There was an opinion held by some that there was a danger of the markets being over-supplied. His early impressions regarding markets were obtained as a boy in Hartford, when there was but one small store selling fruits of any kind. A man remarked to a friend, in his hearing, "I have sold six bushels of strawberries to-day!" A big thing! "A little while ago," said Mr. Hale, "my figures showed a sale of 600 bushels a day." While there is a great increase in production and consumption, there has been a steadily increasing demand for better fruit, and that it shall be put on the market with more style and dignity. If the grower of twenty-five years ago were to put his fruits on the market of to-day in the average style of that time, his market would be the one that takes the surplus. One of the most important things for a grower to learn is to know the markets better. As a planter, he must know not only the best methods of cultivation, but he must know the markets to which he ships. He must go into the markets and learn from observation. The speaker said he had been a "crank" on the subject of markets as regarded what others were doing; and he also declared that one of the things that had contributed much to his "little success" was attending such gatherings as the one he was addressing. Whenever in any new city he often turned out in the early hours of the morning and moved around the markets just to watch how things were done. The result of his study and observation along the line of small fruits, after twenty-five years, with our much-boasted civilization, was that baskets and crates are a mistake. The freer from air the fruits could be kept the better. They must be marketed in tight packages, if fruit can be packed cool and dry. There were a great many things that were not orthodox that must be adopted. He had found it necessary to follow the method suggested by Mr. Chapman in his paper on "How to Make Culture of Small Fruits Profitable," in regard to liberal feeding, etc. He questioned the advisability of planting strawberries in matted beds, and thought, in regard to other small fruits, the hedge-row idea of planting would have to be abandoned — it breeds fungous diseases and makes cultivation expensive. He would plant in check rows; land was cheaper than lumber in most parts. Plant at greater distances, and make the horse do the cultivating. It was also essential that fruits should be picked at the right time. His own pickings begin at daylight, when the dew is on the fruit, and sent to near-by market by 8 oclock, the latter picking making up second loads. Those pickings for shipment to a distance were held till the dew has been allowed to dry up. Pick only the best fruit first, or else pick in two baskets, and pack absolutely honest, from top to bottom. Put the large berries in the bottom of the package if it can not be kept uniform all the way through. Let dealers understand this; impress it upon the market. It pays to make a name and reputation for honest packing, and the man who does it can always get from five to six cents more for his name. Mr. Hale said he had a friend who has a little printed card which is put in every basket, and the consumer knows whose berries they are; he is glad to have them know. This card tells the name of the variety the package contains, the day and hour of picking, and the name of his place. (It pays to have a pretty name for one's place.) He puts in bold-faced type, these words, "Prices always five cents above the market," and the customer goes to market with that extra nickel in his pocket. He condemned the plan of getting fruit into market "any way." The number of people who want first-class fruit is increasing; the people who are growing more refined and more soulful are the lovers of good fruit.

Ladies are generally the purchasers and are attracted by fine and neat packages. The markets can never be oversupplied with that class of products. Mr. Hale believes the time is coming when growers of small fruits will produce a high quality of small fruits just as is done with tree fruits. In Hartford this taste for fine fruits is increasing. One firm has a trade with Black Defiant strawberry at twenty-five cents a quart. Agawam blackberry also sells at high prices. The quality of small fruits can be improved by proper feeding. He believes almost any fruit could be made as it was wanted. The commercial fertilizers, on the whole, are safest and best for him. Stable manure sometimes makes too much foliage. With commercial fertilizers rich in potash and phosphoric acid, they could get firmer fruit and higher flavor; it was also economical and cheaper.

Reports of County Committees.

CAYUGA COUNTY.

By H. S. WILEY, Cayuga, N. Y.

The fruit crop as a whole in our county for 1892 is nothing to boast of. I have received no items or figures from other members of our county committee, and such facts as I have obtained have been gotten from the north part of the county, the territory usually allotted me to look after. I have nothing but words of praise for help received in making up former reports by the other members of your committee — but their large and varied business interests, together with feeble health, has prevented them from looking up the fruit interests of the county, in the line of different methods of cultivation, treatment of insect pests, etc., all of which tend to make our county reports more complete.

About 50,000 barrels of apples were taken from the north part of the county, which does not include some 50,000 bushels of loose fruit, a large part of which was caused by a terrible wind storm that swept across our country just previous to gathering time. The average price per barrel was two dollars, while some received two dollars and fifteen cents per barrel.

Your committee is informed that the yield of fruit in the south part of the county was rather greater than in the north part, but have no figures to verify this. We were rather surprised to learn from different reliable sources that the aggregate amount of money paid for apples in Cayuga county amounted to nearly $200,000; surprised we say, because we did not think there were any apples in the county.

Pears.— The growing of pears in our county is not generally engaged in. The recent establishment of a larger canning factory at Auburn is likely to engage the attention of our people along this line. This, in connection with a paper recently read, on the "Possibilities of Fruit Culture in Western New York," by Mr. Willard, of Geneva, before the "Farmers' Institute," which was so ably conducted by Mr. Powell, has caused many of our farmers to wish for bearing orchards. The waiting part is the part the planter cannot endure. If he could plant his trees in the spring and harvest his fruit the following August, same as his barley and oats, how quickly he would invest in an orchard. Nurserymen would have their facilities taxed for once to meet the demands. How well it is this it not so, else good fruit would soon be on a par with good wheat.

Bartlett pears, which are grown to some extent in our immediate locality, were not nearly a full crop during the past year, neither was the quality up to the standard. Seckels were small and scabby, and in some instances not worth gathering. We are watching with some interest the Idaho, Vermont Beauty and Worden's Seckel. We think the claims made for the last two named varieties are well taken, and we have reason to believe they will be desirable additions to our list of pears.

Plums are being planted to some degree in our county, and many new candidates are clamoring for admission to our already long list. Your committee is of the opinion that it is not quite ready to throw away several of our old standard varieties which have so proudly justified themselves by their good works. We were privileged for the first time, last September, to see the fruit of several promising new varieties, noticeable among which were Black Diamond, Grand Duke and Burbank; in point of appearance they all give great promise. The lateness of the two former varieties, if productive, will surely make them valuable, while the great beauty of the latter will sell it anywhere. I believe the hardiness of all three of these varieties has been thoroughly established.

Your committee is obliged to report that very little has been done in our county looking toward the destruction and extermination of "black knot," although to my personal knowledge the supervisor of our town has been urged repeatedly to comply with the law, provided relative to this matter.

Peaches were nearly an entire failure throughout the county.

Quinces, where orchards were found, were a good crop. Your committee, with a small orchard of the orange variety, has not failed to secure a full crop for a number of years, and has found them, one year with another, a paying crop, and would advise planting more quinces.

Grapes, both in quantity and quality, were all that could be desired. The favorable weather for ripening the crop, with absence of frost, was a great advantage to the grower. Mr. Ellis, of Levanna, on Cayuga lake, informs your committee that he succeeds much better in handling the Worden by picking before quite ripe; it reaches the market in much better condition than if left on the vine until fully ripe.

Blackberries and raspberries were quite up to the average and good prices were realized for the green fruit. I think for red varieties, the Cuthbert and Marlboro still hold first places as leading market varieties; the former, because of its firmness, the more desirable.

Snyder and Minnewaski, in blackberries, seem to still head the list for general market purposes. We hear many favorable comments on the Erie, but this variety with your committee, though only tried in a small way, has frozen down so that we have finally discarded it.

The "Ohmer," a new variety of blackberry, is highly spoken of, and no doubt deserves notice. We hope to hear more about its good points.

Gooseberries.— We advise planting Industry and Triumph, believing it a safe investment.

Currants.— Cherry, La Versaillaise, White Imperial, Moore's Ruby and Fay's Prolific, are all profitable varieties to plant. The North Star gave us a few fine specimens during the past season. For vigor of growth it excels any variety we know.

There is much room for work in educating the people of our country up to a higher standard in the care and management of their orchards. After a suitable site is selected and the trees planted, the work is but fairly commenced; vigilance should be the watchword ever after.

A very pleasing feature to be noted is the many well kept lawns among the farmers of our country, beautifully decorated with many of the latest novelties in the line of roses, flowering shrubs, ornamental trees, etc., etc.

CHAUTAUQUA COUNTY.

By GEORGE S. JOSSELYN, Fredonia.

The grape crop is still the leading one in Chautauqua county. In fact, with us, all other fruits are so neglected that they seem to have no place in this report.

The shipments from our county for the autumn of 1892, which total has been almost all compiled through the kindness of our railroad officials and our leading fruit growers, are as follows:

	Carloads.
Dunkirk	91
Fredonia	330
Silver Creek	45
Forestville	13
Sheridan	70
State Line	79
Ripley	263
Westfield	424
Portland	325
Van Buren	64
Brocton	455
Cars (in car lots)	2,159
Cars (estimated in less than car lots)	50
Cars (estimated for wine)	25
Total	2,234

Shipments in car lots average about twelve and four-fifths tons per car, and the estimated average net price received is sixteen cents per nine-pound basket. At this rate, the value of the crop amounted to $1,012,270. The crop of 1891 was considerably a failure on account of autumn frosts. On comparing the crop of 1892 with that of 1890, the average net price in 1890 was two and one-fourth cents per pound, and there were 1,857 carloads that year and the value of the crop for that year amounted to $1,086,345. So, in dollars and cents, it seems we have a net loss of about $74,000 in 1892 as compared with the crop of 1890. It will be readily seen that the difference in price for the two years would more than account for this loss of revenue, but when we remember the thousands of acres of new vineyards which have come into bearing since 1890, we see there is something wrong. It is very easy to charge the loss to spring frosts, etc., but I believe the cause of the deficiency in the crop of 1892 was fairly explained by one of our most successful and sagacious fruit growers when he remarked to me, a few days since, that he believed our grape belt would need the usual increase of acreage each year to make up for deficiency of crop in the old vineyards caused by want of proper fertilizers. As regards profits per acre per year, our Mr. J. A. H. Skinner, of Brocton (one of our best and most careful fruit growers), makes the following statement, showing what can be accomplished if the work is done correctly and carefully.

Statement for 1892, of one and twenty-nine-one-hundredths acres of vines located in Brocton, N. Y., owned by J. A. H. Skinner:

Expenses.

Cost of land, $600, interest	$36 00
Cost of posts, $32, interest	1 92
Cost of wire, $30, interest	1 80
Cost of trimming and carrying off brush	6 00
Costs of tying up and twine	6 00
Cost of cultivating and hoeing	10 00
Cost of picking and packing	41 12
Cost of drawing to packing house	5 00
Cost of drawing to depot	5 00
First cost of baskets	61 68
Loss on baskets	10 00
County, school and highway taxes	4 00
	$188 52

Receipts.

2,056 baskets grapes, at 17 cents	$349 52	
80 gallons wine, at 20 cents	16 00	
		$365 52
Profit		$177 00

or $137.21 per acre.

The quantity of grapes manufactured into wine was not as large as usual on account of want of storage capacity, a large quantity of grapes having been made into wine in 1891.

Now as to wine-making. We have Ryckman, Fuller, Martin, Day, Skinner and a number of others, all honest men, well known to the public, who make good articles of pure, wholesome wines; but some of the average farmers I do not believe were specially created for wine-makers. Sometimes green grapes, rotten grapes, in fact anything which had ever been or might have been grapes are considered good enough for wine purposes. In a prohibition locality like ours, it is astonishing how great the demand and supply is, each autumn, for old empty whisky barrels. These must have been lain over since we had license (about twelve years since), so when the shipping of fruit is over the "refuse grapes" are gathered up from their temporary resting places for wine-making. I have seen them deposited in a corner on the floor of the packing-room, where they occasionally got liberally moistened with tobacco juice. When they had become too slippery or too much in the way, they were ignominiously thrust outside the door, where they were vigorously and faithfully worked over by the hens. I do not know what the amateur squeezing process is. It may not be inappropriate that it is sometimes done through the horse blanket. Afterwards, this villainous mess is conveniently deposited in a corner of the cellar from which (if it does not escape and kill some outsider not posted as to its caliber and penetration) it often fulfills its mission in befuddling the old man and making drunkards of the children. Finally, the people who make this sort of stuff are generally the ones who believe it wrong to sell wine, etc., unless it is done according to their own darling saving clause in the law, viz.: "In quantities of not less than five gallons."

Mr. Hubbard.— There is one thing I can not understand. The United States census reports the grape product of our county as 13,000 tons, when the actual product was over 23,000 tons. Our statistics were carefully compiled.

ERIE COUNTY.

By ELMER E. SUMMEY, Buffalo, N. Y.

This past season was a peculiar one in many respects, but in the main turned out a fairly profitable one. While strawberries seemed a fair crop, yet in the Buffalo retail markets it was almost an impossibility to get berries fit to eat; the fruit was inferior, each basket having considerable waste; prices, however, were high all the season. The writer, at one time, bought a basket of fine appearing berries, congratulating himself that he was getting a few that looked tempting. On turning the fruit out, however, a trick of the enterprising grower was disclosed; from the bottom, at one side, a second bottom started, was laid at such an angle that while one end rested on the real bottom the other end struck the opposite side midway between the top and bottom, so that but little more than a pint of fruit could be gotten in each box, supposed to hold a quart. Investigation showed that they came from Ohio, but the grower's name could not be learned. He seemed to have made a regular business of this thing, as we heard many others complain of the same fraud.

Other small fruit was in fair supply, but at good prices. Tree fruits, except apples and peaches, were a good crop, everything as a rule selling at fair prices. Grapes, however, were very abundant and low-priced. For the first time Niagaras were sold cheap enough so that the general public could use them, and the verdict has been that it is a grape that strikes the popular taste and one that will always hold its own, when well-ripened; it certainly is fine. We canned quite a few last fall, and they prove ahead of any other variety we have ever had, as their peculiar richness is fully apparent in this State, and is pronounced by all who have tasted them to be unequaled.

Apparently, the soil workers in this county have enjoyed a generally satisfactory and profitable year. In the vicinity of Buffalo, within a radius of ten to fifteen miles, there is a marked decrease in the amount of home farm produce put on the market, owing to the great demand for land for other uses, the farmers being able to sell at a price several times what the land is worth for farm purposes. The market, however, does not suffer, as there is being more stuff shipped here each year, California grapes having made their first appearance this season, selling at about ten cents per pound, and met with a good sale, as the quality was excellent.

The outlook for the new year is bright; our winter, so far, has been favorable, as we have had much more snow than usual, with no extreme cold.

LIVINGSTON COUNTY.

By J. F. WHITE, Mount Morris, N. Y.

Your committee has experienced difficulty in procuring the needful data necessary to the presentation of a faithful report of the condition of the fruit-growing interests of this country, so that they are able to present only a partial statement.

The yield of peaches last season was very light, hardly enough for home consumption. Of apples, there was about one-fourth of a crop, the quality of which was very poor, and a large percentage found its way to the canning factories. Grapes were a good crop, Niagara being the principal variety raised. Pears, so far as grown, were a fair crop. Very few plums are raised. All fruits were free from diseases, with the exception of the yellows.

Livingston is not what may be called a fruit county, although the industry is steadily increasing. There were good crops of all kinds of small fruits, and prices were very satisfactory, being higher than the usual average. Buffalo is the outlet for the fruit products of this county. Vegetables are raised under glass somewhat extensively at Mt. Morris, and large shipments of lettuce, cucumbers, tomatoes, etc., are shipped to Buffalo during the winter. The acreage of peaches has been increased, and more will be planted the present year. At the present rate of increase it will not be ten years before Livingston county will occupy a prominent place among the fruit-growing sections of western New York.

MONROE COUNTY.

By P. C. REYNOLDS, Rochester.

The orchard committee of Monroe county beg leave to report that the season of 1892 was not a very favorable one for the production of tree fruits. Small fruits did better and there were fair crops of berries that sold for good prices. But, with all the knowledge gained by experience, all the lessons taught by this and other societies, by horticultural journals, by agricultural experiment stations, by agricultural colleges, by the Department of Agriculture; despite all the light thrown upon horticulture by science, the fruit-growers of Monroe county were unable to produce good crops of apples, pears and peaches last summer. This failure may be attributed to several causes.

1. The bud-worm, which feeds upon the leaf bud before it opens and upon the leaves, afterwards, and the eye-spotted bud-moth, whose caterpillar feeds upon the blossoms, were quite numerous, although not so numerous, we think, as the previous year. 2. Rain fell at Rochester on twenty-four days, during the month of May, when most of our fruits were in bloom. In the early part of the month, when peaches, plums, pears and cherries were in bloom, there were intervals between rainfalls and breezes that dried off the moisture so that the pollen and possibly the bees could fly; but when the apple trees were in full bloom, from the twentieth to the twenty-second of the month, there was a cold rain storm of nearly three days' duration. That was followed, after an interval of a few hours, by another rain, and for the succeeding two or three days there was rain every day or every night. The results might have been safely predicted. The blossoms could not be pollenized under such unfavorable condi-

tions. A very large proportion of the ovaries never started into growth and most of the blossoms shriveled up their peduncles without any signs of embyro fruit.

3. Still, enough fruit started into growth, especially of some varieties, to have produced moderate crops had they all been favored with healthful development. But the same atmospheric conditions that prevented pollination favored the germination and growth of the scab-fungus germs and the small apples were soon badly affected with fungus. The result was, very few apples in Monroe county and those very imperfect. We think small orchards, with tops well-thinned on elevated situations, where most air was stirring, were most productive.

Pears, blossoming earlier, when the rains were not so protracted, were better pollenized than apples, and started well into growth, but the scab-fungus attacked them and left but a small proportion perfect. We are well aware that our scientific friends will ask why we did not use the well-known fungicides. We reply: They were washed off as fast as applied; that it is not practicable to destroy fungus by spraying with fungicides when it rains every day, or nearly every day, at least economically.

Your committee would here say that they remarked the absence of the codling-moth worm in ordinary numbers, even in orchards where spraying has never been practiced. They think this must be attributable to the entire failure of the apple crop in western New York, in 1890. Insects multiply in proportion to the supply of their food, and when that fails they must necessarily decrease. Your committee would warn orchardists that the canker worm appeared in an unusual number of orchards last summer, and that they may be expected to multiply rapidly unless insecticides are promptly applied. Paris green, properly used, will certainly destroy them.

One of the best crops of fruit in Monroe county last season was the blackberry. It was above an average crop and sold readily at fair prices. One of your committee observed that although at times their blossoms were perfectly saturated with moisture it did not prevent their pollination. Perhaps, from more complete exposure they dried off quicker.

The white-marked tussock-moth are increasing quite rapidly in this vicinity and feed upon the leaves of most of our fruit trees. They feed upon the leaves and not upon the fruit buds, although the second brood gnaw the fruit to some extent. When fully grown "they are more than inch long, of a bright yellow color, with the head and two small protuberances on the hinder part of the back of a brilliant coral red." There are cream-colored tufts on the back. If sought for in winter the cocoons, inclosed in a dried leaf and inclosing several hundred small, round white eggs, may be found attached to branches of the trees and easily destroyed. When feeding upon the leaves they may be destroyed by spraying with Paris green.

NIAGARA COUNTY.

By I. H. BABCOCK, Lockport.

Your committee can find but little of an interesting character to report in relation to fruit production for the year 1892 in Niagara county. The crop of apples seems to have been most abundant toward the rising sun. Niagara county being on the western frontier of the State was, perhaps, the least favored. Why the Hudson river valley should produce an abundance and apple counties proper of western New York have to meet a serious deficiency it is not easy to say. The most plausible theory is that at the most critical time of blooming and setting of the fruit there was too much moisture. A few orchards, or parts of orchards, bore a good crop, while others equally well situated in the same neighborhood failed almost entirely. The same may be said of other kinds of fruit such as pears, plums, peaches and quinces. It would be impossible to form any correct estimate of the amount of the several kinds of fruit which went to the market from the county. The season was too moist for grapes. While the crop was abundant enough the quality was impaired in many vineyards by the rot, although at the last such fruit as remained ripened well on account of the frosts holding off. The local markets were well supplied with strawberries and raspberries, while the Lockport market was almost entirely supplied by one grower of the Snyder variety. There were cases, as usual, of profitable production, as for instance: One thousand five hundred dollars from Bartlett pears marketed from less than five acres; in another case, $500 from one acre of same variety; also $1,200 from an acre of Keifers. These were from orchards well cultivated and cared for.

ONONDAGA COUNTY.

By WING R. SMITH, Syracuse.

As chairman of the committee appointed to report on the fruit crop of Onondaga county, I beg leave to submit the following, with the explanation that I find it very difficult to obtain any accurate data regarding the amount of fruit grown or sold, as no official records are kept, hence the figures given are simply estimates obtained through a variety of sources, but mostly from fruit growers and dealers.

In January, 1892, the intense cold proved disastrous to the peach, plum and cherry crops, and doubtless in a measure affected the yield of all fruit crops, while heavy rains at the time of blossoming unquestionably materially lessened the crop.

With anthracnose in vineyards, fungus in the raspberry, mildew in the gooseberry, blight in the pear, scab in the apple — in fact, a disease or an insect injurious or destructive to every species of vegetable life, Onondaga, with other counties of the State, can report a falling off of from thirty per cent to fifty per cent in its fruit yield, over what it might report, with an extermination of these diseases and pests.

However, thanks to science in the hands of men by whose skillful, patient, earnest research and practical application means are being devised whereby these scourges are either successfully combatted, or wholly exterminated, we can live in the hope that, with a desire and determination on the part of the fruit growers to overcome these obstacles and to lessen the effect of the ravages of these pests, we can still successfully grow all the fruits that thrive in our climate and soil, and dispose of them at remunerative prices.

Notwithstanding the adverse conditions of climate and ravages of pests, Onondaga had a fair yield of apples, estimated at 550,000 bushels.

Pears are not extensively grown. The plum, cherry and peach crops were a failure, as before explained.

Quinces thrive here, but are little grown. The yield of strawberries was all that could be desired, but the crop ripened so simultaneously that the markets were glutted, and the visions of a golden harvest to the grower were clouded by low prices and a short season.

Raspberries, on account of fungus, are little cultivated, but under proper conditions would be a profitable crop.

Gooseberries are also sparingly planted, and too little known to be fully appreciated, but with a cure for the mildew, a better knowledge by the people, a bright future awaits them.

One of our successful gooseberry growers tells me he has experienced wonderfully good results in checking mildew by thorough mulching, or better, by growing a good sod among the plants, thus keeping the sun from the earth about them. Persons up in the culture of these berries will appreciate the value of this suggestion, if there is merit in it.

Currants were about fifty per cent of the usual crop — probably due to the severity of previous winter, as well as the ravages of insects.

Grapes, where protected by bags and sprayed, were of good quality and a fair field.

In the eastern and northern parts of Onondaga county much attention is being given to the raising of tobacco — a crop that has proved a most profitable one to the grower, and as a consequence less attention has been given fruit growing than it deserves; for, as a matter of fact, notwithstanding all the adverse conditions, the growing of fruit for market in our county is a far more profitable business than that of ordinary farming, and if our farmers of the better class could be made to realize this fact it would tend to lead them toward a pleasanter, more profitable, higher plane of life, and to a degree relieve the now overcrowded fields of purely agricultural industry, and make our State and county the better and richer.

ONTARIO COUNTY.

By E. A. BRONSON, Geneva.

The past season can be said to have been a favorable one for fruit growing in general in Ontario county. While there was a shortage of some fruits and a great abundance of some others, which brought low prices, yet your committee feel that the average profit was quite satisfactory to the grower.

The apple crop was about an average one and the fruit very fine. On account of the shortage of this crop in many sections of this State and also in many of the Western States, the fruit in our section sold at prices ranging from two dollars to three dollars per barrel, depending on the variety and the condition of the fruit. One of your committee who owns a small orchard sold 150 barrels at two dollars and fifteen cents per barrel for the fruit. The fruit was so perfect that in the whole orchard there were only thirty bushels of cider apples. There were about 140,000 bushels of apples either shipped from Geneva or used by the canning factory. Your committee have been unable to ascertain the amount of fruit shipped from other points in our county aside from Geneva.

One peculiar fact is worthy of mention, that nearly all of the red varieties of apples bore a good crop of fruit, while the light-colored varieties were almost a failure. Many farmers with whom we have talked this winter remarked that their apple crop was all that saved them from running behind. This on account of the very low price they were obliged to sell their wheat and other farm produce. We think farmers are depending for fruit too much on the apple crop alone. We should recommend the planting of a larger selection of fruits, such as pears, plums, cherries and quinces. Then, if one or two fail to bear a crop, the others are almost sure to bring an income.

We desire to call special attention to the Boiken apple as being a fruit of great promise. Hammond & Willard imported scions of this variety with a quantity of Russian varieties in 1884 (although this is really an Austrian apple). Three rather small trees were grafted with these scions and produced the past season over four barrels of fruit, having also borne a smaller quantity for two previous years. The fruit is of fair average size and shaped very much like the Baldwin. Color, a beautiful yellow, with red check in the sun, as fine in appearance as the Maiden's Blush. Quality, very good, sub-acid. Is also an excellent cooking apple. It presents a beautiful sight on the trees, being well distributed all over a very healthy wood. The fruit was not blown off by the heavy winds of last fall like many other varieties. The leaf seems thus far to be fungus proof. As to its keeping qualities the fruit of 1891 kept until 1892. We would recommend this variety as worthy of trial.

For those who desire a fall apple, fine in quality, great in productiveness, one that seems to have a foliage fire-proof against the work of fungus, we would name the Longfield. We have seen this variety in fruiting for several seasons and are convinced that it is worthy of a careful test in the hands of all, either for home use or for market.

Your committee have watched with much interest for some years past the Martha Crab, and we are satisfied that for beauty and excellent quality it stands unexcelled by any crab apple we have ever seen. One or more trees of this variety should certainly find its place in every fruit garden and orchard.

The pear crop was not as large as some years but was unusually fine in quality and brought satisfactory prices. In many orchards the Seckel was almost worthless on account of fungus on the fruit. The orchards in the vicinity of Geneva were exceptionally free from blight the past season.

The crop of cherries was light and brought high prices, the Montmorency and English Morello heading the list for sours, the Napoleon, Rockport and Windsor for sweets. A new cherry of marked characteristics has come to our notice and we think it worthy of special mention at this time. It is apparently a sweet cherry, with the wood and foliage of a sour type. It ripens rather late, following Montmorency, very large, specimens measuring one inch in diameter the past season, and of the quality of the Biggareau sorts. It is supposed to be a seedling. We hope another year's experience will enable us to speak more definitely concerning it.

The peach crop in our section was almost a failure on account of the cold rains early in the spring, followed by late frosts; some varieties, however, escaped. We have noticed for several years that there were certain kinds that were more hardy in the bud than others, and would withstand not only cold rains, but light frosts. In Ontario county there were partial crops, and in many instances full crops of Waterloo, Early Rivers, Hill's Chili, Salway and some other sorts. On the grounds of one of your committee is an old tree of the Atlanta peach, sent out by Dr. Sylvester, of Lyons, many years ago. It has been in bearing nearly twenty years, and has never failed in all that time to produce at least a partial crop. It bore more than two bushels of fruit the past season. It ripens just after the early Crawford, is a little better in quality, but not quite so large. If it will do equally well in other places it is worthy of more general cultivation.

Mention has been made for two years past at these meetings of the Horton's River peach. After fruiting again in 1892 we can confirm our former convictions regarding this variety. It closely resembles its parent, Early Rivers, ripening at the same time, and as it is a perfect free-stone, more firm in flesh, with equal hardiness of fruit bud, it certainly deserves to be found in every collection of peaches.

Eighteen hundred and ninety-two seemed to be a favorable season for plum growers; all varieties bore an abundant crop; as a whole prices did not range extremely high, but we think the growers of this fruit felt well paid for their labor.

While the old and well-known varieties are being largely planted there seems to be a growing interest in all sections in regard to the recently introduced Japanese plums, and by reason of their hardiness and great productiveness some of them will be regarded as valuable for the commercial orchard.

The term "Botan," it should not be forgotten, is a sort of general name which in Japan covers a large family. Hence several varieties have been introduced into this country under this name, which may in the future lead to much confusion on the question of nomenclature. The earliest ripening member of this family we have seen has matured its fruit for three seasons about July fifteenth. Its beauty and early ripening causes it to sell well in the markets, while its quality is not equal to any of the others we have seen.

The Botan (Abundance) ripens next, is larger, very productive, sells well, but neither are equal in quality to the True Sweet Botan, which follows the Abundance very closely, is more beautiful in style, and in our opinion will supersede the Abundance when better known.

Burbank's Seedling adds another to the list of valuable sorts for the commercial orchard. It combines hardiness, beauty and productiveness in a remarkable degree, and ripens early in September.

Yellow Japan is another, following the Burbank, and in size, beauty and fine quality heads the list of these varieties, so far as we have observed them.

The Diamond, Grand Duke, Arch Duke and Monarch, as well as the Field, are all worthy of the attention of the orchardist. The latter ripens several days in advance of the Bradshaw, of which it is a seedling; in general characteristics closely resembling its parent, and equally productive; comes into bearing very young.

Your committee have seen several varieties of damsons in fruiting, and still feel that for profitable culture French Damson heads the list.

The quince crop was large and very fine, and brought on an average five dollars per barrel.

The grape crop has been a large one, but for several reasons it did not make a very satisfactory showing in dollars and cents. In some instances, vineyards were neglected as to cultivation, and spraying was entirely omitted. From their experience of 1891 in the eastern markets, whole crops have been condemned as poisoned, growers were afraid to spray. As a result the crop was much affected by rot. The bunches were loose, and required a great deal of trimming in order to prepare them for market. This added very much to the cost. Vineyards that were thoroughly cultivated and cared for, sprayed early and often, bore fine crops of excellent fruit. One grower, who marketed over sixty tons, says he never had so large or so fine a crop, and although he sold at low prices his books showed a very satisfactory profit. On a small vineyard of one of your committee is a half acre of Ionas. There were trees in the spaces so he could not get through with the sprayer. The vines set a fine crop of fruit, but there was not a single basket of salable fruit on the half acre, while all of the rest of the vineyard was fine. A block of Reine Claude plums near by, sprayed five times in the course of the summer, bore a large crop of fine fruit, not being affected by rot as many orchards were. Your committee believe that spraying has come to stay, not only as a preventive against fungus but curculio as well.

With the rapid increase of canning and evaporating houses throughout the country the planting of raspberries and blackberries has largely increased, and the growers have been very well paid for their labor. In caps, the Ohio heads the list still for evaporating and the Cuthbert and Marlboro for reds. The average price for good red raspberries has been about ten cents, and five to six cents for caps. Your committee has often been asked what is the best manure for berries. We have answered, first, hen manure; second, wood ashes; third, stable manure. Professor Norton tells us that 300 pounds of fresh hen manure are equal in value to fourteen to eighteen two-horse wagon loads of stable manure. Again, we are told on good authority that 100 pounds of well kept hen manure contains thirty-two pounds of nitrogen, thirty pounds of phosphoric acid, and seventeen pounds of potash. The money value of these is eight dollars and twenty cents, while horse manure is one dollar and thirty-six cents.

Currants were an abundant crop and brought good prices. The Cherry Versailles, and Fay's gave very satisfactory results. The prices for the past few seasons have stimulated the planting of this fruit, and we have heard of one orchardist who now has the plants on hand and the ground prepared on which to plant 100,000 this spring.

There are some new sorts now attracting considerable attention. We have to reiterate what has been said heretofore, namely, that the Moore's Ruby and White Imperial are unequaled for family or table use, while the Wilder, a seedling of Versailles, combines all the essentials required in the best currant for both family and market to an extent found in no other currant yet grown. Our observations were made from fruit as we found it upon the grounds of S. D. Willard. We also quote the following from a report of the Indiana Experimental Station: "Of the newer varieties of currants Moore's Ruby and Wilder are among the best of the red sorts."

The old idea that the Baldwin was the only apple, the Bartlett the only pear, and the Lombard the only plum, worth planting, has exploded, and people are finding year by year that it is best not to put their eggs all in one basket. They are realizing the great importance of first securing suitable land, well drained, then planting a larger variety of fruits that are well suited to stand the climate and soil in which they are to grow, then to give them the proper care in the way of cultivation, trimming and thinning that are necessary to produce the best results. A person wishing to start in the fruit-growing business at the present time can, by visiting several of the best orchards now in bearing, ascertain the best varieties, best manner of cultivation and pruning, without going through that very costly stage of experimenting which has cost the orchardist so many thousands of dollars up to the present time.

The market the past season for some fruits, and especially plums, was somewhat broken down by parties shipping fruit which should have been left on the trees from one to two weeks longer in order to become matured and well colored.

Let us say in closing that if growers would allow their fruit to become properly matured before picking and would then exercise more care in grading, packing, and marketing, the markets would not so soon be broken down, the customers who buy the fruit would be better satisfied, and the profits to the grower would be materially increased.

ORLEANS COUNTY.

By VIRGIL BOGUE, Albion.

The fruit-raising industry of Orleans county has been watched with a great deal of interest the past season. The winter and spring were very favorable till blossoming time, when we had two days of hot and muggy weather, followed with showers accompanied by an electric storm, which killed most of the fruit as it was setting and stunted the balance so that it made but little progress for several days. Many varieties of apples developed their matured color when but little larger than a cherry. The weaker portion dropped or became badly infested with scab. In some localities there was no fruit; in others there was a partial crop of as fine fruit as was ever raised in the county, aggregating about 250,000 barrels, that were sold at an average price of two dollars per barrel.

Quinces, plums and raspberries were a fair crop and brought good prices. Pears and peaches bore lightly, while cherries and blackberries were a failure. Trees of all kinds were remarkably healthy and free of worms. They now give promise of a crop of fruit the coming season.

Peach trees are less affected with the yellows. Pears and quinces have less blight, and black knot is being eradicated under the provisions of the new law.

The grape industry has not proved so much of a success as was anticipated, only a few making it pay necessary expenses.

Evaporating apples and making cider vinegar are great industries of our county. Those engaged in it appear to be doubling the capacity of their buildings each year. The much needed industries are a vinery, and canning and pickling factory, the county being especially adapted to raising vegetables and canning fruits.

SENECA COUNTY.

By E. C. PEIRSON, Waterloo.

The committee of Seneca county beg to report concerning the production of fruits, etc., for the past season as follows: The crop generally has been good, but, as is often the case, some fruits have only been a partial crop, or nearly failures, namely: Cherries, raspberries, strawberries and some varieties of pears. They blossomed full but did not set their fruit, and when they did the cold, frosty weather or heavy rains of the early season seemed to be unfavorable for carrying much of the fruit that did set. The season later, however, was more favorable, so that the quality of the different fruits, as a rule, was excellent.

The apple crop of the red varieties was very abundant. The Baldwin, which is king of apples for prolific bearing, seemed to outdo itself the past season. It was not a rare thing to find trees twenty-five to thirty years old to produce ten barrels each, besides windfalls; and one fruit grower told your committee that he realized more money this year from his windfalls of an orchard of several acres than he did from the same amount of land in any farm crop, and he has a good farm. The crop of light-colored fruit, such as Greenings, was nearly a failure. It proved to be the case, however, that the apple fruit marketed was not far from 5,500 barrels.

Bartlett pears only an average supply, and Duchess d'Angouleme about one-fourth crop, about 4,000 bushels and 3,000 kegs, and sold at good rates. Prices paid by canning factories ranged from one dollar and twenty cents to one dollar and sixty cents per bushel.

The plum, only a moderate yield, rotted on the trees badly in some cases, but the marketable fruit brought good prices. Amount shipped, about 4,000 bushels. Cherries, from an extra abundant yield last year, dropped to a shipping crop of about 10,000 pounds.

Peaches, in our peach-growing section, did fairly well, though in places that are not favorable the crop was a failure. We have reports of about 3,000 bushels, as having been shipped and at high prices. Quinces are coming to be of more interest to growers. The shipment, about 2,000 bushels, at fair prices.

Grapes are mentioned last, but not least in importance. A large acreage in the middle and southern portions of the county is devoted to the growing of this valuable fruit. Statistics of the general success of the vineyard interest were not at hand for the committee to report from. We have been able to gather reports of sales of about 600 tons. Prices realized for same, though not flattering, have been fairly satisfactory.

We find that spraying trees has only been practiced to a limited extent. In most cases, where it has been carefully and thoroughly done, the results have been favorable.

Bordeaux mixture seems to prove the safer to use of the different insecticides. The experience of your committee has been very satisfactory. A test of leaving part of a pear orchard without spraying, showed conclusively the benefit to the fruit and the foliage of the trees. The use of London purple the year before may have destroyed many insects, but it also injured the foliage.

We report on the working of the law which provides for destroying trees affected by the black knot, as carried out in the town of Waterloo only. A commission was appointed in accordance with the law, and it undertook the work; it visited the different orchards and gardens and found over 4,000 trees, mostly plum, affected by the disease; 3,000 of which were in bad condition and needed to be destroyed and the balance severe pruning. Many of the trees were destroyed.

It was found that many of the people did not know that it was black knot or that it was a destructive disease, and were very willing to do as ordered, when so informed. Many others expressed themselves as glad that there was such a law being carried out. Only three parties of those approached made any objection to the commission in its work. One party who had an orchard of 175 trees that was literally covered with the diseases felt that he would be ruined if his trees were cut down. We earnestly recommend a more faithful carrying out of the law in the future.

The ignorance shown with regard to black knot is also manifest in the utter negligence, as a rule, shown by owners of small orchards, and we may say also of some larger orchards, in the matter of proper pruning. Many trees have twice or three times too much wood on them, and yet the owners are surprised that their trees do not bear much fruit, and it is of such poor quality. If the orchardist would post himself and experiment with some intelligence he would soon find out the principal cause of failure.

The sizes of packages and manner of shipping are chapters by themselves, and we do not feel to take the time further. In conclusion, will say that the growing of fruit in our county is hardly begun as it should be for the best interest of the landowners.

The report of shipments shown herein would aggregate, at the market prices, $160,000.

WYOMING COUNTY.

By J. D. SHERMAN, Castile.

In Wyoming county the main fruit crop is the apple. The crop of 1892 was light; only about 20,000 barrels sold, at an average price of $2. The quality was not as good as the 60,000 barrels grown in 1891. Only one good crop of apples has been gathered during the past four years and that was not a full crop. Orchards are not receiving the attention and cultivation they should, and comparatively few are being planted. We believe it is better not to plant more, unless the growers cultivate thoroughly, and fight the codling-moth and scab fungus, which seems to be the cause of failure of the apple crop. We believe the day is coming, if not here already, for specialists in fruit culture, who thoroughly understand the business and keep posted on all new and improved methods of warfare against the many insect enemies and diseases. gainst these the fruit grower must constantly defend himself if he would be successful. There always have been, and probably always will be, those who do not take proper care of their orchards. And right here is encouragement for those who produce first-class fruit, as better prices will be obtained.

The pear crop was light and very much damaged by knots or hard spots in fruit. About 500 barrels were sold at an average price of two dollars and fifty cents. The pear orchards in the county are not affected by blight as much as formerly. A few new orchards are being planted.

The plum crop, in some orchards, was much damaged by the rot, which seems to be the worst enemy of the plum. The leaf blight did some damage. The black knot did but little damage to orchards, and can not if the disease is promptly stamped out.

Of quinces, about 200 barrels were sold at two dollars and fifty cents. Peaches and cherries failed entirely.

About sixty tons of Niagara grapes were sold at good prices, as against twenty-five tons last year, which was the first crop grown in the county, from the 200 acres of young vines of that variety.

All the small fruits produced a good crop, and sold at sight at good prices, and much more could have been sold in the villages and to farmers.

YATES COUNTY.

By GEORGE C. SNOW, Penn Yan.

The year 1892 will be memorable for its many drawbacks in horticulture, the frequent rains of early spring destroying many bright prospects, and in other instances precluding remedial and preventive measure being carried out. Yet, on the whole, we of "Little Yates" have but small reason for complaint.

In the grape districts of our county the crop was, in most cases, abundant, although prices were very low.

The plum crop was only moderate, but prices were sufficiently high to make up for shortage in the crop. Peaches were a short crop and prices ruled high.

Quinces were abundant and of poor quality, and consequently low in price, but good stock brought remunerative prices. Pears poor, few and cheap. Apples, about two-thirds of a full crop and prices very satisfactory. In fact, in nearly every case too high for the quality, which was not of the best, and in some instances very poor.

Spraying was attempted in some cases, but with indifferent success. In the vineyards where spraying was thoroughly followed there was practical exemption from rot and mildew, but when it was not practiced these diseases prevailed to a considerable extent. Apples and grapes are our principal fruit crops, although all fruits, both large and small, are grown some.

The apple crop yielded a total of about 200,000 barrels, at an average price of about one dollar and twenty-five cents per barrel for the fruit as it came from the tree, without assorting. Only a very small proportion (about forty per cent) of our apples could be graded as first-class, owing to scab, codling-moth and hail blotches. The grape crop aggregated, as nearly as your committee are able to get at the facts and figures, about 2,500 carloads, and equivalent to about 5,000,000 what are commonly called ten-pound baskets, of the value — at the extremely low prices received — of about $400,000 to $450,000. At these prices the viticultural business is anything but remunerative.

The black raspberry forms no inconsiderable part of our fruit industry, and is worthy of especial mention. The crop amounted to about seventy-five to eighty tons of evaporated berries, valued at from $30,000 to $35,000, in which there is a fair degree of profit, but not extreme riches.

Strawberries are grown by a few persons, and where well grown are profitable. Currants and gooseberries are only grown in a small way.

Pears, peaches, plums and quinces are grown in some places, but statistics are not at hand from which to arrive at quantities for the purposes of this report.

BUSINESS.

FIRST DAY — Morning Session.

The thirty-eighth annual meeting convened in the common council chamber, Rochester, N. Y., Wednesday, January twenty-seventh.

President W. C. Barry called the meeting to order at 11.10 o'clock.

The following committees were announced by the chair:

Nominations.— W. Brown Smith, Syracuse; Geo. G. Atwood, Geneva; C. W. Stuart, Newark; Nelson Bogue, Batavia; C. A. Green, Rochester; J. M. Mersereau, Cayuga; E. A. Bronson, Geneva; M. Ansley, Geneva; C. L. Hoag, Lockport; Geo. S. Josselyn, Fredonia.

Business.— J. S. Woodward, Lockport; Wing R. Smith, Syracuse; C. M. Hooker, Rochester; J. J. Harrison, Painesville, Ohio; Geo. B. Arnold, Benton Center; E. C. Pierson, Waterloo; G. C. Snow, Penn Yan.

Finance.— Irving Rouse, Rochester; Duane Bogue, Medina; B. J. Case, Sodus.

Exhibits.— C. W. Seelye, Rochester; Walter F. Taber, Poughkeepsie; J. W. Spencer, Westfield; Hon. J. H. Hale, South Glastonbury, Conn.

Resolutions.— G. C. Snow, Penn Yan; David H. Henry, Geneva; C. M. Hooker, Rochester.

After recess of half an hour, the committee on nominations reported, and also recommended the appointment of a special committee, to be known as committee on "Grapes and small fruits," and submitted names for such. Adopted.

On motion, the secretary was instructed to cast the vote of the society for the names presented. [See list at commencement of these proceedings.]

The committee on business submitted the programme of papers and questions issued in connection with the call for the meeting, the same to be subject to such modifications by the president as circumstances might require. The committee also suggested some amendments to the black knot law passed by the Legislature last year.

The report was accepted and committee discharged.

President Barry expressed thanks for his re-election, and hoped to merit their approval. The society was growing in numbers and influence, and many new faces were present. There was an increasing desire for knowledge in the particular department represented by the society, all of which was encouraging.

State Fair Fruit Exhibits.

Mr. Willard referred to the strong efforts made in the last year or two to make this society's fruit exhibit at the State fair what it ought to be. Dr. Hexamer told him the exhibit made by this society a year ago was the finest he ever saw. The speaker saw no reason why that good name should not be maintained, and he urged members to be prepared to make liberal contributions and thus enable this society to take the first premium at this year's fair. The exhibits of the Western New York Horticultural Society has done much to account for the increased attendance at this meeting. The last season was not very favorable for fine fruits, hence the society's display at the State fair was not as good as the year previous. Onondaga county made a very special effort and carried off the first premium, while this society took the second. There will be a reduction in the premiums to societies this year, in order that those offered to private exhibitors may be increased. One thing he desired members to understand, and that was that anything they were willing to contribute toward this year's display could be sent in the name of the society, and the freight charges would be taken care of. Members will not be expected to prepay charges, as last year, which was a mistake. He moved the appointment of the same committee as last year to take charge of the exhibit this year.

Carried.

The committee are H. S. Wiley and J. M. Mersereau, Cayuga; and Virgil Bogue, Albion.

Black Knot Law.

The following question was suggested by the committee on business:

Is the law known as the Black Knot law in satisfactory operation? If not, what change can be recommended?

Mr. Willard said that in his town the law had been entirely satisfactory, for the reason that they had insisted on its provisions being carried out to the letter. Still he thought the law could be improved. Some supervisors did not enforce the law because of their fear that it might impair their chances for re-election. He thought the remuneration of commissioners should be made three dollars per day.

Replying to a question, Mr. Willard estimated the cost to his town at $250. One nest of trees, of about an acre, enough to infect the whole county, was cut out and burned, within three days.

Mr. Geo. B. Arnold favored commissioners holding office till their successors were appointed.

Mr. Wing R. Smith thought if every man who has the knot on his place would destroy the affected wood, and then try and persuade his neighbor to do the same, they would be quite as successful as under the law.

Mr. J. S. Woodward said in his town they were trying to create a sentiment through the farmers' club that shall stand behind the supervisors and give them to understand that the law must be enforced or they would not be re-elected. The plum interest is immensely profitable for this State; no other fruit culture paid as well. The knot could be exterminated under this law if its enforcement was insisted on.

Messrs. Geo. C. Snow, Geo. B Arnold and J. S. Woodward were appointed a committee to draft such amendments as they thought necessary, and submit them at to-morrow's session. Mr. Willard was added to the committee.

Adjourned.

FIRST DAY — Afternoon Session.

Convention convened at 2 o'clock.

President Wm. C. Barry read his annual address, which will be found at the commencement of this book.

Cornell Students.

Prof. L. H. Bailey, with fifty Cornell students, presented themselves, and were received with rounds of applause.

Mr. J. S. Woodward said he understood that the pupils were presented with free passes by the Lehigh Valley Railroad Company, and he moved that the thanks of the society be forwarded to that company for its liberality.

Carried.

Adjourned at 6 o'clock till 7.30.

FIRST DAY — Evening Session.

President Barry in the chair.

Classification of Freight.

A communication from T. G. Yeomans & Son, of Walworth, was read, in which they invite the attention of the society to the following petition, and ask that some action be taken in regard to it:

To the Railroad Officials having in charge the Classification of freight:

The undersigned represent and ask your attention to the fact that a very great change has taken place within a few years past in the relative values of apples, pears and quinces; that

Whereas, Until a few years since the average value of pears and quinces has been from 100 to 200 and 300 per cent greater than apples, and within and during the past few years the markets have so changed that one can not well say that any one of these fruits would bring the most money per barrel, or be likely to in the near future;

Therefore, We respectfully ask that in classification they should all be classed alike and made to pay one tariff rate.

Then follow the signatures to the petition.

Mr. Willard referred to the appointment of a committee on this subject at the last annual meeting. Many present were growers of pears and quinces. It had been reported that some growers had shipped these fruits as apples, hence the importance of taking hold of the subject. He thought the Messrs. Yeomans had started right, and so, in accordance with their request, he submitted the following:

"At the annual meeting of the Western New York Horticultural Society, held in the city of Rochester, January 25, 1893, it was

Resolved, That the classification of pears and quinces at rates of freight much above apples has, during recent years, been clearly out of proportion to their relative value, which is much the same; and we see no reason why they should not be embraced in one rate of freight.

Resolved, That we fully approve and indorse the petition to the railroad authorities on this subject in the hands of T. G. Yeomans & Sons, and also their communication to the classification committee thereto attached."

The resolutions were adopted.

Mr. Woodward, for the committee appointed on this matter at the last meeting, reported that the committee had attempted to procure statistics from the railroad companies as to the different shipments of fruits and rates paid, but their efforts were fruitless.

SECOND DAY — Morning Session.

Convention assembled at 9 o'clock, Vice-president Willard in the chair.

The World's Fair.

Mr. Geo. T. Powell and Mr. G. C. Snow both addressed the meeting on the subject of the New York State exhibit at the Columbian Exhibition, emphasizing the importance of every member doing all he could to contribute to the fruit display.

A letter was also read from Hon. Donald McNaughton, expressing his regret at being unable to be present to speak on the subject.

Adjourned at 12.30.

SECOND DAY — Afternoon Session.

Convention reassembled at 2 o'clock, President Barry in the chair.

Pear-tree Psylla.

A member had on exhibition some branches of pear bearing some disease, concerning which he sought information.

Mr. M. V. Slingerland was asked to examine the branches, which he did, and described as follows: The injury was probably caused by the pear-tree psylla. The brownish appearance of the leaves I can not explain. You can determine whether the pest is present on your trees this winter by breaking off the scales on the bark or examining the scars of cut-off limbs. If present, you will find the minute winged adult insects in these places. They are quite sluggish in winter, but very active in summer on the leaves. In the spring these adults come from their hiding-places and lay very small yellow eggs in the creases just below the terminal buds. The egg is impervious to pure kerosene and many other substances used as insecticides. The insect can be best combated just as soon as it hatches from the egg in the spring; about the middle of May is the best time. There is a period of about two weeks at this time when the trees should be sprayed once or twice with kerosene emulsion made according to the Riley formula (one-half pound soap dissolved in one gallon boiling water, and add two gallons kerosene while still hot, and syringe back and forth for five minutes), diluted with from twenty to twenty-five parts of water. This dilution kills all sizes of the early stages of the insect almost immediately. One spraying effectually destroyed from seventy-five to ninety per cent of the nymphs. The best time to spray is just after a rain which washes off much of the honey dew secreted by the insects; in this honey dew a back fungus grows, which gives the tree its black appearance, especially noticeable in winter when the leaves are all off. The pest is one of the jumping plant lice, the adult leaping like a flea. The young forms are to be found congregated in great numbers on the axils of the leaves and fruit stems, where they suck the sap and cause the new shoots to droop. In midsummer the leaves and half-grown fruit drop. If the insect is found in considerable numbers on the trees this winter it would be advisable to wash the trees thoroughly with an emulsion diluted only nine or ten times, or with a strong soap suds.

Mr. George T. Powell stated that the insect had damaged him to the extent of $10,000 in the last three years. It not only destroys the fruit, but many trees are so weakened that they die before spring.

Greetings from Canada.

Mr. L. Woolverton, Grimsby, Ont.—I wish to convey the members of the Western New York Horticultural Society the greetings of the Ontario Fruit Growers' Association, which organization I have the honor to represent here to-day. We have a larger membership than you, but I must say that we never have larger meetings than this, nor as much enthusiasm. I always learn something when I visit your meetings. Up in Ontario, I think, we are really making progress, particularly in Niagara district. I think some of the statements made here in regard to profits somewhat too large for the average fruit growers to expect. In Canada some orchardists have become discouraged and are grubbing up their apple trees, but I think they will regret it later. I have a young orchard upon which considerable labor and money has been expended, and from which I have great expectations. The apple is too valuable a fruit to be neglected. I am confident that spraying will overcome the insects which prey upon the trees. We have been trying to put down the black knot and the yellows. At first we had local inspectors, but in order to secure their appointment, we had to procure a petition signed by fifty persons, but now we only have to have five. We now have a provincial inspector to see that the local inspector does his work. Efforts are also being made to secure the inspection of fruits before shipment out of the country and marked in crates, so that customers can order on the brand and expect to get what they order.

Fungous Diseases of Fruits to be Reported.

Professor Bailey offered the following resolution, which was adopted:

Resolved, That the committee on botany and plant diseases be instructed to print each season a list of the most important fungus diseases of fruits and mail this list to the members of the society with the request that they report to the committee at the close of the season concerning the prevalence of these diseases, the loss occasioned by them, the most successful methods used in fighting them, and the occurrence of new or unusual fungous diseases of fruits, the cost of issuing this list to be paid by the society.

Mr. T. S. Hubbard suggested that the formula used in combating these diseases be also given.

Amendment to Black Knot Law.

The committee appointed to suggest amendments to this law made report as follows:

That section two, which at present reads: "In any town or city in this State in which such contagious disease exists, or where there is good reason to believe it exists or danger may be justly apprehended of its introduction, it shall be the duty of the supervisor or mayor of any town or city upon the application made in writing and signed by at least three freeholders, who are residents of said town or city, to appoint forthwith three competent freeholders, who shall be fruit growers, of said or city as commissioners, who shall hold office during the pleasure of said supervisor or mayor, and such order of appointment and of revocation shall be entered at large on the town or city records," shall be amended as to read:

"In any town or city in this State in which such contagious disease exists, or where there is good reason to believe it exists or danger may be justly apprehended of its introduction, the supervisor or mayor of any town or city shall, upon the application made in writing and signed by any freeholder, who is a resident of said town or city, appoint forthwith three competent freeholders, who shall be fruit-growers, of said town or city, as commissioners, who shall hold office until successors shall be duly appointed and qualified, and such order of appointment shall be entered at large on the town or city records."

That the portion of section six, which reads: "By imprisonment in the county jail not exceeding ten days, or both, in the discretion of the court; and any justice of the peace," shall be amended so as to read: "By imprisonment in the county jail not exceeding ten days, or both, in the discretion of the court; and any supervisor or mayor who shall neglect or refuse, upon application as provided in section two of this act, to appoint such commissioners, he shall be deemed guilty of a misdemeanor and punished by a fine not exceeding fifty dollars; and any justice of the peace," etc.

Also that section seven, which now reads: "The commissioners shall be allowed for services under this act two dollars each for each full day, and one dollar each for each," shall be so amended as to read: "The commissioners shall be allowed for services under this act three dollars each for each full day, and one dollar and fifty cents each for each," etc.

The committee also offered this resolution:

Resolved, That a committee of one be appointed by the president of this society to present the subject to the Legislature and urge the passage of the desired amendments.

The resolution was adopted, and the president appointed Mr. J. S. Woodward to attend to the matter.

Increase of Membership.

President Barry made an earnest plea for extra effort on the part of members to secure new members. The society is accomplishing much, and was worthy of special effort on the part of members in this direction.

Several gentlemen pledged themselves to secure some new names.

Reduction in Railroad Fares to Members.

Mr. Hubbard moved that the secretary be authorized to correspond with the tariff association, and guarantee the purchase of at least 100 fares, with a view to securing reduced rates.

Carried.

Report of Committee on Exhibits.

The committee find nine different exhibits of fruits. The largest display is by Ellwanger & Barry. This firm, in accordance with a practice of many years, has placed on the tables for the inspection of this society a collection of fruits which is a practical lesson of the highest value to all fruit-growers. No words can express so much, no lecture or essay can teach so well, the results that can be achieved by the earnest, intelligent and persevering cultivator, as this comprehensive collection of handsome fruits.

The collection consists of four varieties of apples, fifty-one varieties of pears, and thirty-four varieties of native grapes. Among the pears is a quantity of the Anjou variety of the highest perfection in size, form and coloring — a splendid showing of this beautiful and valuable variety.

In the collection are shown specimens of Oliver des Serres and Bon Chretien, Fred Baudry, two of the fine new varieties described in the report of the Committee on Foreign Fruits read before this meeting.

The varieties of grapes exhibited are in a fine state of preservation, but in this particular there are degrees of quality shown by the different varieties. The one variety which appears superior to all others for its keeping qualities is the Mills — it may be said to be perfect. A few of the others apparently standing highest in this quality are, Barry, Catawba, Eumelan, Gaertner, Merrimack, Rogers 11, Rogers 21. The whole list of grapes presented in this exhibit is as follows: Agawam, Barry, Black Eagle, Brighton, Catawba, Diana, Dutchess, Eumelan, Gaertner, Geneva, Goethe, Herbert, Highland, Iona, Isabella, Israella, Jefferson, Lindley, Massasoit, Merrimack, Mills, Martha, Mary (new), Moore's Ditmond, Niagara Sport, Prentiss, Rebecca, Rogers 11, Rogers 21, Salem, Triumph, Ulster, Vergennes and Wilder.

W. C. Barry shows five varieties of pears, all handsome, finely grown specimens. The society is also a witness of his horticultural taste in the display of specimen plants of palms, dracenas, aspidistras, and cut flowers of roses, which ornament the speakers' stand.

George B. Arnold, of Benton Center, N. Y., shows eight varieties of apples.

O. Weed, of North Rose, N. Y., shows the Rose Sweet apple — a large fruit mostly covered with crimson.

Hammond & Willard, of Geneva, presents the Boiken, a very beautiful Russian variety, large, smooth, yellow, with a bright red cheek.

Smith & Powell, of Syracuse, present three varieties of apples.

Charles A. Green shows seven varieties of seedling apples grown by William Stammee, of South Osborn, Wisconsin.

H. O. Fairchild, of Hammondsport, exhibits Catawba grapes in the most perfect condition.

L. B. Pierce, of Talmadge, O., shows specimens of a seedling apple, a small fruit. In Mr. Pierce's note, which accompanied the fruit, it is said to be small from overbearing; somewhat russetted and a tinge of red on the sunny side, an apple of good quality and apparently an excellent keeper.

E. E. Stine, Talmadge, O., sent specimens of a pear claimed by him to be a seedling of the Aremberg. Fruit yellowish, pyriform, medium size, flesh white, fine-grained, juicy, sub-acid, quality best. An excellent keeper.

J. T. Thompson, of Oneida, N. Y., shows a new seedling raspberry called the Columbian, a seedling of the Cuthbert, supposed to be crossed with the Gregg. Mr. Thompson's exhibit consists of dried specimens of the canes with leaves and fruit, several bottles of the preserved fruit, and a sample of wine made from the fruit. The growth of cane of this variety, as shown by specimens on exhibition and photography of the plants, is very strong, and the fruit is abundant. The fruit of this raspberry, as seen by the bottled specimens, is a dark red, and in its bottled condition the form is well preserved. The canes root at the tip like those of the black cap varieties. It appears probable that this new variety has some valuable qualities, and that it will be worthy of special attention and trial.

E. J. Baldridge, of Kendaia, N. Y., shows specimens of unfermented juice of the Niagara grape.

Langdon Wall, of Webster, N. Y., shows specimens of the Maggie Murphy potato, a new seedling variety of large size, smooth, rose color, handsome.

Weaver, Palmer & Richmond show three styles of force pumps, with spraying attachments, made by the Goulds Manufacturing Company, of Seneca Falls, N. Y. Also a knapsack sprayer, made by the same firm.

The Field Force Pump Co., of Lockport, N. Y., exhibit the Garfield Knapsack Sprayer.

The Rochester Radiator Co., presented a vine holder or tye, a piece of wire bent somewhat in form of the letter S. Your committee has tested this form of tye with results not entirely satisfactory.

CHARLES W. SEELYE,
Chairman.

Resolutions.

The committee on resolutions offered the following:

Whereas, It being one of the aims of this society to further information regarding horticulture and kindred interests, and fully recognizing the aid of the press; therefore, we do give our hearty thanks for the reports of this meeting which are being made by the various papers.

Whereas, Much interest, pleasure, and information is added to this meeting by the exhibition of the beautiful plants, flowers and fruits; therefore, we do now, by a vote extend to those who are exhibitors, our sincere thanks for their kindness in making this beautiful and extensive exhibition.

Whereas, Much of our success as a society is due to the gentlemen who have so kindly favored us with the valuable addresses and papers at this meeting; therefore, we do hereby express to these gentlemen our appreciation of their addresses and papers, by a rising vote.

Whereas, It is necessary for the success of our society that it has a suitable place for its meeting; therefore

Resolved, That we, the Western New York Horticultural Society, do hereby tender our thanks to the common council for the use of this chamber for our annual meeting.

Report received.

GEO. C. SNOW,
DAVID HENRY,
C. M. HOOKER,
Committee.

This report was received and adopted, all members rising.

Adjourned.

TREASURER'S STATEMENT.

Receipts.

By cash on hand January 27, 1892	$2 00
By membership fees at annual meeting	208 00
By membership fees collected since	62 00
By premiums from State Agricultural Society	200 00
	$472 00

Disbursements.

To stationery	$0 52
To janitor city hall	15 00
To ribbon for badges	6 00
To printing (various bills)	21 38
To salary of secretary and treasurer	150 00
To sundries, as per cash book	39 16
By cash in bank	216 19
By cash on hand	23 75
	$472 00

The auditing committee reported the above as correct, and the report was accepted and adopted.

ELLWANGER PRIZE COMPOSITION.

Report of Committee.

Mr. George G. Atwood prefaced his report by reading the letter of Mr. Ellwanger as follows:

Rochester, *July*, 1889.

To the President of the W. N. Y. Horticultural Society :

I donate herewith to the Western New York Horticultural Society the sum of $1,000 in R. C. and B. R. R. coupon bonds, bearins six per cent interest, to be used as a sinking fund with the object of encouraging a taste for the planting of fruit and ornamental trees. The interest of this amount shall be offered annually for the following purposes, the subject for competition to alternate every year:

First.— For the finest and best maintained private place, with reference to the collection and placing of ornamental trees, shrubs and hardy flowers, and the general treatment and maintenance of the grounds.

Second.— For the best, most interesting and properly maintained private collection of large and small fruits.

The first prize shall consist of two-thirds of the interest of the sinking fund, forty dollars; the second prize, of one-third of the interest, twenty dollars.

Competition shall be open only to members of the Western New York Horticultural Society, intending competitors to notify the president in writing at or before the annual meeting of the society, of their intention to take part. The awards shall be made by a committee of three members appointed by the president.

GEORGE ELLWANGER.

The only entry for this prize in 1892 was made by Mr. Samuel J. Wells, Fayettsville, N. Y.

Two members of your committee appointed to award the prize visited the place of Mr. Wells during the past summer and have decided, in view of all the circumstances, to award him the prize of forty dollars under provision first of Mr. Ellwanger's offer.

It is a source of much regret that the members of this society have been so slow to compete for the prizes that are provided by this generous contribution of Mr. Ellwanger.

We are sure that the members of this society have a great many places that should be known and described to us all, as they could and would be if brought into this competition.

Those of you who have nicely kept places owe a duty to your society in this direction, to say nothing of showing your appreciation of the generous founder of this fund, whose object was to awaken an interest in the beautifying of your homes, and whose greatest reward for his gift will be the knowledge that an interest is awakened in this direction.

Your committee would recommend that no prizes hereafter shall be awarded unless there are two or more competitors in either one of the two classes.

GEO. G. ATWOOD,
WM. S. LITTLE.

On motion the report was accepted and the committee continued.

Mr. Willard hoped members would take more interest in this liberal offer of premiums. He knew it would gratify Mr. Ellwanger to learn that there were scores of competitors.

[Members desiring to enter will please forward their names, with full post-office address, to the secretary. In order that places may be visited the coming summer, entries should be made at once.]

THE BARRY MEDAL.

Inquiry was made as to what entries had been received in competition for this medal.

The secretary reported the following:

Mr. Jacob Moore, Attica, N. Y., a dark-red currant.

Mr. Z. H. Harris, Rochester, N. Y., red raspberry.

Mr. E. M. Buechly, Greenville, Ohio, strawberry and blackberry.

President Barry, in reply to a question, said entries could be made at any time.

Considerable discussion followed, which resulted in the announcement that medals could be issued at the discretion of the committee, as far as the interest on the donation would permit, and that medals would be awarded as soon after the prescribed time, of three years from entry, as satisfactory tests had been made of the articles entered, and that fruit could be disseminated after being entered, but could not be entered after being disseminated, trials at experiment stations not being considered as dissemination.

QUESTIONS AND DISCUSSIONS.

What are the best and most economic manures for currant and gooseberry plantations?

Mr. John Charlton.— I use stable manure in the fall of the year as a mulch and cultivate in the spring. Pruning adds largely to the fruiting as well as to the growth.

Mr. Willard.— Green gooseberries are a profitable crop when well grown. Both currants and gooseberries like good treatment. If I was growing English gooseberries with the expectation that they would not mildew, I would use wood ashes to a greater extent. They are good on gooseberries, currants or anything else. From what I learned while visiting in Michigan, I consider gooseberries a profitable crop. One gentleman realized $800 from an acre of Downing gooseberries picked ripe. I have never picked them ripe. Our plan is to pick green and run through a fanning mill, an operation which takes off the dust and leaves and renders the fruit bright. They are reasonably profitable — as much so as anything. I would prefer to raise English gooseberries if I could do so without mildew. A fair price for a bushel of green gooseberries is as high as four dollars; average three dollars.

Mr. J. T. Thompson raised, last year, eight and a half bushels of the Columbia gooseberry; 105 plants; plants set in three rows four feet by three; four years old; used barnyard manure. Sold at twelve and a half cents per quart.

Mr. Chapman asked for information in regard to currants.

Mr. Hooker.— We abandoned raising currants; other things paid better, although they are paying fairly well now. Downing is the leading American gooseberry and proving fairly profitable. Average price, with us, for green fruit, about two dollars per bushel. The Industry has proved a failure in large plantations. Mr. Moulson destroyed his plantation which, at first, had proved profitable, attributing his failure to want of shade and irrigation. The hot sun in dry weather destroyed the fruit and injured the foliage. Foreign varieties have not succeeded in Monroe county.

Mr. L. Woolverton, Grimsby, Ont.— I have had some success with currants, having planted one-half acre of Red Cherry about fifteen years ago, and which I have extended to about four acres, chiefly of the same variety. I consider currants as profitable as any other variety of small fruit; easily handled, easily gathered, the price being fully equal to that of other small fruits — eight to ten cents per quart being about the average. The white currants do not pay at all. When currants average $200 per acre I think them a profitable crop.

Mr. J. H. Hale.— I have a friend in western Massachusetts who has about four acres of currants under cultivation. He is a very thorough cultivator of the soil, a liberal feeder and an almost reckless pruner. He is growing now about an acre and a half each of Fay's and Victoria. He fertilizes with a mixed fertilizer, and gives his currants about 1,500 pounds annually, supplemented by from seventy-five to 125 bushels of ashes from a limekiln near by. He mulches them with hay in the spring. The bushes are pruned annually in the fall, being shortened in and thinned out considerably. He gets about 125 bushels of Fay's to the acre, and about 150 bushels of Victoria. Victoria is the most productive and Fay's gives the largest fruit. His shipments are made to Boston, Albany, etc. He gets a somewhat better price for Fay's, because they come at a time when whatever currants are in the market are all there; but his Victorias ripen a little later and remain on the bushes a week or two. He knows that, as a general thing, the housewife has not made her jelly from the first shipments and so he holds on till the demand is strong, averaging about ten cents per quart. His average yield of the two varieties has been 135 bushels to the acre; besides which he has sold wood from both varieties to the extent of $1,500.

Mr. Jacob Moore.— The demand for the fruit is always greater than the supply. Can sell all I raise for ten cents a quart.

Mr. W. F. Taber, of Poughkeepsie.— I have grown currants for ten years on two different kinds of soil — one a good stiff upland, and the other a good gravelly loam. They have yielded well every year on the upland, but not so on the loam. I prune so as to renew the wood every three years. The Victoria has a habit of growing more in tree form, bears well, but when placed in the basket or crate shows too much stem, and the appearance is not as good as with large varieties. Currant-growing can not be made profitable except on good stiff soil. I lost one crop in a wet season, which I attributed to mildew. The leaf should remain until October, but here they drop off in August, which I think is due to mildew. White grape bushes were loaded, but the sun shone upon them and destroyed them, due to the leaves dropping. If currant-growing is to be carried on successfully we must understand more about trimming and the mildew in the leaf. I have had a row of gooseberries on a knoll, and as long as I kept them cultivated and clean the mildew never came. I then changed the manner of cultivation, two courses of manure, and have not had mildew since. There is something in the action of the sun, as well as the wet weather, that causes mildew. Last year I neglected my currants, giving them hardly any cultivation, and even then they paid me as well. Neither Downing nor Columbia have mildewed with me.

Prof. Bailey.— In the Hudson river valley gooseberries and currants are grown with great success. Fay's and Cherry are the most popular. Fay's is apt to be capricious and split. John Burrows says currants have been a profitable investment for him, but not so much so as grapes. This leaf blight of the currant is a serious difficulty; but experiments prove that the leaves may be kept on by the use of Bordeaux mixture. Downing gooseberry is grown very largely because it can be shipped as a green fruit while still ripe. We can guess the picking season by picking when green, and when ripe is still green.

Mr. Taber found an Englishman who said, "Never pick a gooseberry green;" and that has been his experience. The worm that shows in some varieties does not affect the Downing.

Storage houses for fruit. How to build them, and the expense.

Both Mr. Hooker and Mr. Barry were of opinion that cold storage houses have not proved profitable.

Mr. Hale.— At a meeting of the Connecticut Pomological Society, Mr. Moore gave us a talk, the gist of which was that he was still in doubt as to whether cold storage was a success. Bartlett was the only pear it had proved profitable with. There had been more marked success with apples, but considerable failures; and after eight years' experience I do not want to try anything but apples. The shrinkage is about thirty-five per cent. Dr. Fisher, of Fitchburg, Mass., has found cold storage unprofitable except for apples. Hubbardson apples sold to go to Boston the other day at five dollars per barrel.

Mr. Hoag.— There are four or five fruit houses in Lockport, which I believe are unprofitable. Have seen cellars that kept apples much better.

Mr. W. H. Hart heard a man say he had met with the least loss with storing apples in barges tied to the wharves in New York. Loss very slight.

A member.— There are 40,000 barrels of apples in storage at Lyons now. I have a cellar in which I have held Baldwins till the middle of March with only three per cent loss; no fire over the cellar. I think the use of ice injures the flavor of all fruits. Fruit must be used immediately on leaving cold storage, or it will perish.

President Barry reminded members that the question asked was as to how to build cold storage houses, and the probable cost — houses for temporary storage of fruit while waiting for quotations from markets. Every farm should have such a building.

Mr. A. J. Rice.— At Sodus and Williamson they have basement rooms of heavy walls, above ground; plenty of windows with tight board shutters. They can keep apples till away into March or

April. The windows are sometimes opened to let in cold air, but are shut up on warm days. Some build rooms above the basement by using two or three thicknesses of lumber and building paper. This is done all along the line of the Rome and Watertown railroad. One dealer kept Greenings when the themometer was at thirty-two degrees.

Mr. Seth Fenner.—We have two or three houses in Buffalo where they manufacture ice on the same principle as is adopted by some breweries, and have rooms which are rented to commission men, fruit growers, farmers and grocers for the storage of all kinds of fruits, also meat and eggs. Have known apples to last through till April. I put in a lot of pears for five or six weeks which sold for $125 more profit, the expense of storing being fourteen dollars.

Mr. Hale.—I think temporary storage a very important convenience. Our peach orchards are eight or ten miles from Hartford, and on one occasion when there had been a delay in getting fruit to market on Saturday, and it was too late to sell, it was put in cold storage and on Monday sold for two dollars a basket. There were 125 baskets. But for the storage they would have had to sell to peddlers on the Saturday for one dollar. The expense of the storage in this case was thirteen dollars. Our plan on our Georgia place is to put up an ice machine, gather the fruit every hour or two, draw to a central packing shed, pack and run into cold storage till ready to load a number of cars. Perhaps co-operation among farmers might be helpful. We shall ship our fruits in refrigerator cars.

Mr. J. F. Hunt.—They have cold storage at Oswego and Philadelphia. I saw Bartlett pears taken out of cold storage in the latter city that opened up in fine shape. There were more buyers than could be supplied, and the fruit brought from five dollars and a half to six dollars per barrel.

A member thought it desirable to have some places to put not only fruit but garden vegetables for temporary storage.

Mr. H. O. Fairchild.—I know two places at Hammondsport, above ground, with one or two air chambers, sheathed, papered and clapboarded on both sides, and ceiled inside. There is a trench running a greater or shorter distance, from four to eight feet deep, by opening which they can be kept cool in the fall and warm in the winter. There are 900 trays of grapes in one of these places to-day. When the thermometer goes below zero an oil stove is put in at night. A nearly uniform temperature is secured from the middle of September through the winter. Grapes net now about double what they did a month since. At home the price is twenty to twenty-five cents per five-pound basket. Expect to ship till May first with comparatively light loss.

A Member.— I think the place for cold-storage houses is in the city. A temporary place is all right on a farm. There are several in the Seneca lake region, which are built in the side of a bank with stone cells, ventilated at the side and on top. The difficulty is that if we desire to keep our fruit till a certain time, it is generally at a time of year when the railroad companies are taking off cars and shutting down on rates. So that, if we are going to keep fruit for a long period, it should be stored handy for market.

Replying to a question as to how long Bartletts will keep after being in cold storage, Mr. G. T. Powell said from three to six weeks with ice. Some thus kept were taken out and packed in half barrels and shipped to New York in about forty-eight hours. He had seen northern spy apples taken out in August of the following year, and stand up for a month and be of fair quality and good looks.

The question was asked how the fruit on exhibition at that meeting was kept, and President Barry said it was kept in boxes, in layers laid between papers, two tiers in a box.

Prof. Bailey thought that for grocers the cold storage houses should be where the shipping is done.

A member.— My idea of cold storage for the common farmer is one that can be kept cool in the summer and yet not damp, with proper ventilation.

President Barry said when the fruit-growers would get to raising late fruit it would be necessary for the grower, if he has enough fruit, to construct a house where it can be preserved in the ordinary way, and can be shipped at the proper time.

What are the best of the Asiatic fruits that are suitable to our climate; are any of them valuable here?

Prof. Bailey, in response to the question: "What is meant by 'Asiatic' fruits?" said: "Most are Asiatic, if they mean Japanese plums."

It was ordered that question twelve be incorporated with the previous one. It reads as follows:

What can be said regarding the value of the Japan plums recently introduced?

Mr. Willard.—We have fruited quite a number. The name "Botan" applies to the whole family, which includes many varieties. The trees are hardy, foliage rugged and healthy and bright late in the season. They are likely to withstand the disease from which many of our European plums suffer. One variety has ripened for a series of years about July fifteenth, and, while poorest in point of quality, is nice in appearance, and because of its earliness, sells well on the market. Abundance is equally hardy and productive, larger and perhaps a little better in quality, ripening about middle of August. True Sweet Botan ripens a little later than abundance; a better plum and a little more productive. Burbank Seedling is the most productive of all. I think I am correct when I say that on one tree we had them set about the rate of 100 to the square foot; very beautiful. While not the best in taste, it sells remarkably well; hardy. Following a week later than any, is the Yellow Japan. About the time of the State fair we had a tree that was loaded; quality, superior. I know of no European plum of finer quality; very beautiful in appearance and very large. I regard this as one of the best and very valuable; trees perfectly hardy. We got the buds and topworked them, and have never suffered one bit of dead wood. Burbank has a rich bloom; flesh, carmine on one side and yellow on the other, with numerous dots on the surface; from medium to large; rounder than Lombard; ripens about September tenth. Have seen no evidence of black knot. Satsuma is a large, blood-red plum.

Mr. Hale.—I have not tested all these plums on my own grounds. In Connecticut and Massachusetts, Abundance, Burbank and Satsuma are the three that have proved most hardy in wood; have winter-killed a little in Massachusetts, but they are vigorous, healthy growers, and show no trace of black knot. They are abundant bearers; the fruit is showy and attractive; but the quality is not equal to the best European variety, by any means. Satsuma is a very round plum, deep carmine, peach-red all the way through, with small pit. Think they are going to prove valuable market varieties. They will keep better than European plums, While the choicer varieties are what we want, yet the common markets are not supplied with ripened plums. New York State plums go into Connecticut, and are used for pickling.

Mr. Henry Lutts.— Mr. Hale has explained the good points. You can pick the Japanese plums two-thirds green, ship to Connecticut, where they can be held for two or three weeks, when they will be in good condition to eat — about as good as fifty varieties which we send to market. Ogon is one of the nicest early plums; a handsome yellow, with a flavor peculiar to itself — like a nice, ripe banana; ripens about the twentieth of July, about ten days before Wildgoose. Abundance ripens about with the last named. I have grown Wildgoose, but don't think it good; think Abundance far superior.

Professor Bailey.— I think I am not saying too much when I say that the Japanese plums are the most important new type of tree fruits for the north introduced during the last quarter century. They are essentially unlike the ordinary plum in their botanical and horticultural characters. They were probably natives, originally, of China. The first introduction made was about 1870, from Japan. Something like twenty varieties have now been introduced into North America, of which at least half and perhaps more, are hardy in New York State. One of them has fruited well in Ottawa, Canada. The most promising varieties for the north, so far as I know, are three of the Botans — the Burbank, the Satsuma and possibly the Ogon. Of the three Botans which I know in New York State, two only have distinct names, so far as I can learn. One is Mr. Lovett's Abundance, one if the True Sweet Botan, and a third, which is very early, and which I have seen at Mr. Willard's, has not yet any name, so far as I know. All these plums are exceedingly productive and vigorous. The fruit is handsome, and while not of the highest quality, it is still as good as the average run of the common plums. The True Sweet Botan is especially good. The Burbank is, perhaps, the most promising of the varieties of the north, so far as yet tested. Nearly all these plums are long keepers, especially the firm-fleshed varieties, like Ogon, Burbank and Satsuma. They are also exceedingly handsome and attractive. Of all the varieties mentioned, the Ogon is a free-stone, but the others are clings. The Ogon is of a pure golden yellow, somewhat flattened, and the quality is not very good. The Botans are bright red-purple in color with a thin, bright bloom. The Burbank is a mottled purple, overlaying a skin of fine orange. It is one of the handsomest tree fruits which I have ever seen. These Japanese plums ripen in the north all the way from the middle of July to the last of September. So far as I know, they are not attacked with the black knot.

President Barry.— One thing to be guarded against is their lack of hardiness. I think in some places they will be found to be tender. Kelsey is tender.

Mr. Lutts.— I have trees that have borne four crops. Since bearing the second and third crops they have assumed a ruggedness and hardiness that very few plum trees take on.

In reply to a question, Mr. Willard said plums should be planted twelve by sixteen feet.

Is there any variety of cherry producing sweet fruit, and having the wood and habit of growth of a sour cherry?

Mr. C. M. Hooker named Belle de Choisey.

Mr. Willard.— I have seen a sweet cherry growing upon a tree that had the wood and foliage of a sour cherry — Morello type — more nearly like Early Richmond, as sweet and fine as a Bigareau. Fruit about an inch in diameter. Mr. George G. Atwood measured it. I have looked through Downing, but fail to find any cherry answering these points.

Professor Bailey substantiated Mr. Willard's statement.

Mr. Jacob Moore.— I made a cross of a sour and a sweet cherry, raised several seedlings, some of which have produced flowers, but no fruit.

What new or recently introduced grapes have proved to be valuable for market or home garden?

Mr. Jacob Moore.— Moore's Diamond has done well. I have heard from one grape-grower at Canandaigua Lake, who reported that it had done the best with him of any variety there; had the most healthy foliage.

What new strawberries promise to be of permanent value?

Mr. L. J. Farmer.— Lovett's Early has proved a good variety. With one year's experience with the Van Deman we are pleased. Among the older varieties Parker Earle has given us the best satisfaction. We had fifteen hundred plants that produced 2,640 quarts on one-fifth of an acre, and which sold for ten cents per quart. In future, instead of planting so many acres, we will give better culture.

Hon. J. H. Hale.— There are too many new strawberries, but some are continually improving on the old in some respects. On the whole, I think we are working up. Parker Earle, comparatively new, on a strong, heavy soil, is making a wonderfully vigorous growth. It is quite productive, of a medium size and good color. Unfortunately, you can not get plants enough. Jessie produced some good fruit, but, on the whole, is not satisfactory. The Lovett is a magnificent fruit, strong, healthy, perfect and plump; bears enormously; fine form, good color, fair quality, medium in season. One of the best all-around berries, but is not early. One of the very best; good to plant with a productive pistillate variety of the Crescent and Bubach type. Beder Wood is another vigorous grower; more subject to the strawberry leaf blight than Lovett, but considerably earlier. The best early flowering variety we have, both in Connecticut and Georgia. Edgar Queen is a good berry. Timbrel has not been much tested, and I do not think it wise to speak of a fruit when only tested in one or two localities. Greenville has done wonderfully well in Ohio, and is reported as ranking highest at many experiment stations. It is a pistillate variety. I think it has not been tested to any extent by ordinary planters. Michel's Early has paid fairly well on quite light soil. Valuable pollenizer for such varieties as

Crescent, Warfield, etc., but in future I would prefer to plant Beder Wood and Lovett.

President Barry.— Lovett has a good shape, regular, ripens well and of good flavor.

Mr. Hale.— I wish all nurserymen would try and strike out from their catalogues about nine-tenths of the strawberry list as now sent out.

Mr. Taber.— As a strawberry grower in Dutchess county, I am interested in the discussions here. I think the first thing an intending fruit-grower should do is to cultivate himself. Success or failure depends more on the man than the soil or the plant. Of the 600 varieties of strawberries in cultivation, you can count on the fingers of both hands the varieties necessary for market. I raised 800 bushels year before last on four and one-half acres. They averaged $530 per acre. I have found Bubach (No. 5) and Jessie, planted together, the most profitable. My soil is a strong slatey clay and grows strawberries to perfection. I have so grown Sharpless. I continue with the Crescent, which has not been displaced by newer varieties. It has such an attractive appearance and very productive, always pays. Of the new varieties, I have found Parker Earle and Haverland among the most salable. Warfield is not as salable; a little too dark. As I ship only the very first quality of fruit, I do not use berries of that character. Cumberland is an excellent berry; but I have not found Michel's Early so, for, while beautiful in growth of plant, after two pickings there are no berries. Among the earlier varieties, one of the best with me has been May King; firm in texture, fine form and color, good carrier, and a good all-around berry. But the most profitable are the Bubach and the Jessie. They mature early, and their value consists largely in the fact that the later pickings are as large as the early. In regard to the culture of men, I have tried to impress upon some of the young men the importance of attending such meetings as these and the farmers' clubs and institutes. I came to this meeting on the invitation of Mr. Willard, and have been disappointed in the most agreeable manner. I did not expect to see such a gathering. I want to get a little of your fire, and shall visit you again.

Mr. M. F. Webster.— How are your berries on the ground?

Mr. Taber.— In matted rows; never found any better way. Some advocate narrow rows or hill culture, but it takes too much labor. I endeavor not to crowd; plant four feet apart and gradually let them spread. The rows are two and a half and three feet wide, and give me the best returns of any.

Replying to a question by President Barry, Mr. Taber said: In reference to fertilizers I have found in my experience that all manures have their places, but the place for stable manure is not in the strawberry bed except on top as a mulch. I use commercial fertilizers alone, thereby getting rid of weeds I have been most successful in using stable manure by piling it and using in the fall for a mulch. Just before leaving home my men used 200 loads of stable manure; it thoroughly protects. But my reliance has been commercial fertilizers, it telling not only upon the berries but also upon the quality of the fruit. I have found this in connection with grapes also.

Replying to further questions, Mr. Taber said: I have not fruited the Lovett to any great extent, but my idea of it is good. Parker Earle is everything desirable so far; not large but very good. Haverland is one of the best selling berries in our local market, although not of high flavor or very firm texture. Always cultivate in the spring; keep down weeds. I have used nitrate of soda when berry plants were a little lacking in growth in the spring; have mixed it with potash and bone, so as to get a little more nitrogen in the compost. I think well of it as a forcing manure, but we must, of course, have something back of it.

Mr. Chapman — I cover all with the mulch and the berries lie on the straw. In order to cultivate between I have to take the mulch off and put it back again.

Mr. Taber.— I do not think it would pay in that case. I do not mulch in the paths between the rows, but in the spring I first cultivate the ground between. We take a wooden rake, shaking up the mulch. I picked two years. My second year I found the best. The potash and bone is put in the ground before plants are set out. I do not subsoil, but plow deep, using a sulky plow, the action of the plow being to lift the soil and pulverize it. My crop usually follows potatoes, as I prefer that crop. I plant corn on my rough ground where I have had raspberries, applying stable manure to the corn crop. Then, the next year, on the corn stubble I plant the berries All my work is done on about thirty acres. If I had land enough to make the rotation, I would get down to the clover foundation, taking potatoes first with the addition of fertilizers. My soil does not lose anything that is put into it.

How to kill the asparagus beetle?

This quesion was asked by Mr. Robbins, who said that in an asparagus bed at Brighton, N. Y., the leaves were all eaten off; he had not tried anything, the discovery being new to him.

Mr. Woodward recommended the rubbing of the stalks with woolen cloths, the eggs being found along the stalks; as soon as ripe those stalks should be burned. He did not think insect powder would have any effect.

Mr. Marcus Ansley had used Paris green with good results on growing plants.

Mr. Robbins had five acres planted to asparagus, and would not want to go over so large a field with woolen cloths.

What treatment can be recommended for the plum rot?

Mr. Hooker.— Pick off as fast as they become spotted. We are informed from Washington that Bordeaux mixture is good; have never tried it.

Mr. Willard.— My experience has been different from that of my neighbors. Mr. Maxwell's trees suffered from the rot both last year and the year previous. I think they sprayed, but not with entirely satisfactory results. I have worked with the idea that if we keep our foliage intact we are less liable to have plum rot, and have fed the trees with reference to that. Have not lost ten bushels of plums. When we have found any sign of decay, our plan has been to have short, pointed, light poles, with which the decayed fruit has been knocked off. The Maxwells lost hundreds of bushels, and had thousands of trees defoliated. I do not assume to say that the rot is caused by defective foliage, but I suppose that that has something to do with it.

Mr. Hakes.— What has been the effect on the foliage of your trees as a result of feeding?

Mr. Willard.— We have used more or less of barn-yard manure and, in addition, a large amount of wood ashes — four or five car loads yearly. The foliage has remained intact up to the coldest weather. By "healthy" I mean a good, fair, rugged growth. I think we have used too much barn-yard manure. The plums we knocked off were picked up into baskets and burned.

PERMANENT FUND.

1889, *February* 1 *to August* 22, 1890.

To cash, P. Barry (railroad bonds)	$2,000 00
To cash, Geo. Ellwanger (railroad bonds)	1,000 00
To cash, C. J. Burke	200 00
To cash, D. W. Powers	100 00
To cash, H. W. Sibley	100 00
To cash, Alfred Wright	100 00
To cash, Mrs. Mary Hooker	100 00
To cash, W. B. Smith	100 00
To cash, William S. Kimball	100 00
To cash, R. G. Chase & Co	100 00
To cash, S. D. Willard	100 00
To cash, Niagara Grape Co	5 00
To cash, Wiley & Co	10 00
To cash, W. & T. Smith	100 00
To cash T. C. Maxwell	100 00
To cash, E. C. Peirson	10 00
To cash, Nelson Bogue	25 00
To cash, Chase Bros	25 00
	$4,275 00
Invested in railroad bonds	3,000 00
	$1,275 00

1889.			
June	29.	To cash, interest in trust company......	$1 70
Oct.	1.	To cash, coupons	90 00
Dec.	31.	To cash, interest	1 02
1890.			
June	1.	To cash, interest	8 73
Dec.	1.	To cash, interest	18 48
Dec.	31.	To cash, coupons	180 00
1891.			
April	1.	To cash, coupons	90 00
June	1.	To cash, interest	24 95
Oct.	6.	To cash, premiums, New York State fair...	300 00
Oct.	1.	To cash, coupons	90 00
Dec.	1.	To cash, interest	27 72
1892.			
April	1.	To cash, coupons	90 00
June	1.	To cash, interest	34 08
Oct.	17.	To cash, coupons	90 00
Dec.	1.	To cash, interest	36 21
			$2,357 89

Contra.

1889.			
June	7.	By paid H. Hawks, secretary, for premiums and interest on bonds	$183 50
June	27.	By paid trust company, rent....	5 00
1890.			
Sept.	20.	By paid John Hall, secretary...	60 00
Dec.	31.	By paid trust company, rent....	5 00
1891.			
Feb.	2.	By paid John Hall, secretary...	47 00
May	30.	By paid John Hall, secretary...	78 00
Oct.	10.	By paid John Hall, secretary...	10 00
Nov.	22.	By paid S. D. Willard, expenses at State fair	39 25

1889.				
Dec.	29.	By paid trust company, rent....	$5 00	
1892.				
Oct.	19.	By paid trust company, rent....	5 00	
Oct.	19.	By paid Samuel J. Wells Fayetteville, N. Y., Ellwanger prize	40 00	
				$477 75
		Cash on hand		$1,880 14

SUMMARY.

Receipts.

Subscriptions	$4,275 00
Received from coupons	630 00
Received for interest on bank balance	152 89
Received premiums, State fair	300 00
	$5,357 89

Disbursements.

Railroad bonds	$3,000 00	
Premium and interest on bonds	183 50	
Rent of safe, trust company	20 00	
John Hall, secretary, Western New York Horticultural Society	195 00	
S. D. Willard, expenses, State fair........	39 25	
Samuel J. Wells, for Ellwanger prize	40 00	
		3,477 75
Cash on hand		$1,880 14

Rochester, March, 1893.

W. C. BARRY,
S. D. WILLARD,
Trustees.

In addition to the above, the executors of the estate of Patrick Barry hold in trust the sum of $950, interest on which is to be used for the benefit of the society.

MEMBERSHIP ROLL.

Names marked thus (*) indicate life members.

Ades, Robert, Rochester.
Albright, J. H., Ontario.
Anderson, H. S., Union Springs.
Andruss, C. J., Canandaigua.
Ansley, Marcus, Geneva.
Ansley, Wm. A. Milo Center.
Ansley, Isaac, Seneca.
Armstrong, W. B., Rochester.
Arnold, Geo. B., Benton Center.
Artman, A. M., Le Roy.
Ashley, R. B., Rochester.
Atwood, Geo. G., Geneva.
Austin, Jas., East Kendall.
Babcock, A. E., Brighton.
Babcock, I. H., Lockport.
Bacon, G. H., Webster.
Bailey, L. H., Ithaca.
Baker, Nathaniel C., Fishers.
Baldridge, C. J., Kendaia.
Baldwin, B. F., Albion.
Barnes, C. A., Lockport.
Barns, Wm. D., Middle Hope.
Barry, Wm, C., Rochester.
Beach. S. A., Geneva.
Beckwith, J. K., Brighton.
Bell, David K., West Brighton.
Bennett, S., Garbutt.
Bennett, J. L., Geneva.
Bickford, H. H., Johnson's Creek.
Bidleman, John, Albion.
Blossom, Thos. E., Brighton.
Boardman, Truman, Trumansburg,
Bogue, Nelson, Batavia.
Bogue, Duane, Medina.
Bogue, Virgil, Albion.
Bogue, J. T., Marysville, Cal.
Bowen, A. H., Medina.
Bowman, T. W., Rochester.
Boynton, L. R., Lakeside.
Bradley, F. M., Lake Road.
Briggs, Bros., Rochester.
Briggs, F. H., State Industrial School Rochester.
Brigham, Chas., Spencerport.
Brodhead, E. A., Kittanning, Pa.
Brooks, M. W., Brooks Grove.
Bronson, E. A., Geneva.
Brown, H. L., Carlton.
Brown, Chas. J., Rochester.
Brown, J. S., Rochester.
Brown, R. C., Portland, Oregon.
Bruns, F. E., Brooklyn.
Bryant, L. J., Newark.
Budd, Kenyon, Hector.
Buechly, E. M., Greenville, O.
Burke, Walter, Batavia.
Butler, P. W., East Penfield.
Card, Fred. W., Ithaca.
Case, B. J., Sodus.
Catchpole, George, Rose.
Catchpole, E. W., North Rose.
Chadderdon, Isaac, Weedsport.
Chadwick, T. M., Eddytown.
Chapin, Harry G., East Bloomfield Station.
Chapman, C. E., Peruville.
Charlton, John, Rochester.
Chase, Lewis, Rochester.*
Chase, I. T., Hector.
Chase & Co., R. G., Geneva.
Churchill, G. W., Geneva.
Clark, B. W., Lockport.
Clark, C. E , Newark.
Clark, E. P., Dansville.
Clark, J. Hannam, Moreton Farm.
Clark, A. D., Alton.
Cline, Geo. W., Winona, Ont.
Cole, G. M., Spencerport.
Collamer, John B., North Parma.
Collier, Peter, Geneva.
Collin, Wm. T., Fayetteville.
Comstock, G. A., Spencerport.

Conover, Geo. S., Geneva.
Cook, C. E., South Byron.
Cook, Irving D., Byron.
Coolidge, Chas., Phelps.
Coon, Alex., Medina.
Corbett, L. C., Ithaca.
Covey, Eugene, Penfield.
Craib, James, Rochester.
Craib, Jas. R., Rochester.
Crawford, M., Cuyahoga Falls, O.
Cumine, W. I., Bristol.
Curtice, C. S., Portland.
Curtice, S. G., Rochester.*
Curtis, G. M., Rochester.
Daniels, J. H., Geneva.
Darrow, C. H., Geneva.
Davis, George A., Mexico.
Davis, George, North Collins.
DeGraw, Hamilton, Shakers.
Deming, H. C., South Greece,
Devereaux, W. L., Clyde.
Doyle, Michael, Rochester.*
Drake, T. A., Brighton.
Dunning, D. M., Auburn.*
Dutton, A. H., Youngtown.
Edgerton, Geo. I., Rock Stream.
Edmunds, W. J., Brockport.
Eighme, A. G., Lockport.
Ellwanger, Geo., Rochester.*
Ewer, Geo., Mendon Center.
Fairchild, H. O., Hammondsport.
Fanning, J. R., Rochester.
Farmer, L. J., Pulaski.
Farrand, W. H., Rochester.
Felderhof, So. Dennis, Mass.
Fenner, Seth, East Aurora.
Fisher, Chas., Ridgeville, Ont.
Fisher, Geo. E., Freeman, Ont.
Fitzwater Pear Co., Himrods.
Ford, J. S., Pittsford.
Foster, H. W., Geneva.
Fowler, W. J., Rochester.
Franke, Abraham, Rochester.
Freeman, H. P., Rochester.
Freestone, W. J., Spencerport.
Frost, Henry C., Rochester.
Galbraith, J. H., Dansville.
Gano, J. E., Starkeys,
Gardner, J., Rochester.
Garnsey, Mark O., Fairport.
Gear, Homer, Pittsford.

Geisler, John, Geneva.
Gillette, Samuel, LeRoy.
Glen, J. G., Rochester.
Glen, A. P., Akron, Ohio.
Glen, F. W., Brooklyn.
Goff, E. S., Madison, Wis.
Gould, E. P., Rochester.
Gray, C. B., Albion.
Gray, F. S., Greigsville.
Green, O. D., Syracuse.
Green, N. H., South Byron.
Green, Chas. A., Rochester.*
Green, Ira W., East Avon,
Gregory, Hiram, Lockport.
Greiner, T., La Salle.
Gridley, Abraham, Penn Yan.
Haight, A. H., Barkers.
Hair, L. M., Rochester.
Hair & Son, Hugh, Dundee.
Hakes, J. S., Albion.
Hale, J. H., So. Glastonbury, Conn.
Hamilton, O. H., Honeoye.
Hammond, A., Geneva,
Harris, Z. H., Rochester.
Harris, Julius, Ridgeway.
Harrison, J. J., Painesville, Ohio.
Harrison, H., Rochester.
Harrison, W. C., Painesville, O.
Hart, Wm. H., Poughkeepsie.
Hartman, F. M., Dansville.
Hartman, W. H., Dansville.
Hartman & Rouse, Dansville.
Hayward, E. S., Rochester.*
Heberle, J. F., Irondequoit.
Henry, D. H., Geneva.
Herrick, Rufus L., Brighton.
Hess, C. H., Castile.
Hewson, R. C., Penn Yan.
Hexamer, F. M., New York.
Hise, W. J., Carlyon.
Hixson, Foster A., Vine Valley.
Hixson, P. V., Hess Roads.
Hoag, C. L., Lockport.
Holt, C., Rochester.
Hooker, C. M., Rochester.
Hooker, H., Rochester.
Hooker, C. G., Rochester.
Hooker, Wm., Ontario Center.
Hopkins, W., Lewiston.
Horton, Joel, Covert.
Horne, Oliver, Lyons.

Hotchkiss, Jas. L., Rochester.
Howard, Chas. T., Rochester.
Hubbard, T. S., Geneva.*
Hunt, J. T., Romulus.
Hutchings, F. B., North Chili.
Irish, Geo., Spencerport.
Jaques, H. M., Wright's Corners.
Josselyn, Geo. S., Fredonia.*
Kean, B. F., Geneva.
Kelley, W. H., Newark.
Knapp, F. R., Himrods.
Lalor, F. R., Dunville, Ont.
Lamb, Anthony, Syracuse.
Laney, C. C., Rochester.
Lauer, F. C., Jr., Rochester.
LeClare, J. F., Brighton.
Leffler, J. H., Stuart, Mont.
Lefrois, J. B., Rochester.
Lennox, Jas., Rochester.
Lewis, E. B., Lockport.
Lewis, Frank B., Lockport.
Lincoln, O. M., Newark.
Lindsay, Alex. M., Rochester.
Little, W. S. Rochester.*
Little, Chas., Rochester.
Lodeman, E. G., Ithaca.
Longwell, R., Hammondsport.
Lord, J. S., Linden.
Luetchford & Co., R. D., Rochester.
Lutts, Henry, Youngstown.
MacDonald, J. G., Rochester.
MacKay, J. W., St. Thomas, Ont.
Maloy, C. J., Rochester.
Mann, W. C. T., Barkers.
Maxon, H. D., Sanborn.
Mayo, E. S., Rochester.
McBlain, Saul, Bittsborough.
McDowell, Robert, Medina, O.
McGuire, W. G., Rochester.
McMillan, William, Buffalo.
McNair, C. W., Dansville.
McNaughton, Donald, Rochester.
Merrill, Howard E., Geneva.
Mersereau, J. M., Cayuga.
Miles, W. W., Carlton.
Milliken, J. D., Linwood.
Mills, Chas., Fairmount.
Montgomery, F. R., Johnson's Creek.
Moody, Geo. H., Lockport.
Moore, Jacob, Attica.
Moore, Trevor, Hammondsport.
Morey, J. B., Dansville.
Moulson, Geo., Rochester.
Moulson, T. G., Rochester.
Mulford, F. L., Edgewood, Pa.
Munson, W. M., Orono, Me.
Murphy, Andrew J., Dansville.
Murphy, J. D., Dansville.
Nellis, Geo. B., Clarkson.
Niagara White Grape Co., Lockport.
Norris, E. B., Sodus.
Ochsner, M. H., Syracuse.
Odell, D. H., North Collins.
Page, Frank W., Rochester.
Palmer, Jas., Sr., Rochester.
Parker & Sons, Keuka.
Patty, D. H., Geneva.
Paylor, John, Lyons.
Pease, Ira, Oswego.
Pease, D. R., Trumansburgh.
Pease, LeRoy, Oswego.
Peck, H. J., Seneca Castle,
Peirson, E. C., Waterloo.
Peirson, A. H., Waterloo.
Perkins, C. H., Newark.
Pierson, M F., Seneca Castle.
Pintler, F., Ontario.
Pitkin, Wm., Rochester.
Powell, Edward A., Syracuse.
Powell, E. C., Ithaca.
Pratt, A. D., Rochester.
Prentiss, A. N., Ithaca.
Prentiss, C. C., Pulteney.
Purdy, A. M., Palmyra.
Purdy, F. H., Bluff Point.
Quinby, Henry, Rochester.
Rathbone, A. B., Oakfield.
Redman, S. D., Newfane.
Reed, Peter R., Honeoye.
Reeder, Lyman, Starkeys.
Reeves, F. L., Palmyra.
Reynolds, P. C., Rochester.*
Rice, A. J., Sodus.
Robbins, S. J., Brighton.
Roberts, I. P., Ithaca.
Robertson, James, Rochester.
Robinson, Fred, Trumansburg.
Roesch, Lewis, Fredonia.
Rogers, L. R., Albion.
Root, Jas. A., Skaneateles.
Rose, J. F., South Byron.
Rouse, Irving, Rochester.

Rowlee, W. W., Cornell University.
Rupert, W. P., Seneca.
Sackett, O. L., Canastota.
Sanford, L. H., Gaines.
Satterlee, Eugene, Rochester.
Sawyer, John, Gasport.
Schoener, C. G., Rochester.
Scoon, C. K., Geneva.
Seager, Edwin, Phelps.
Seelye, C. W., Rochester.
Sheehan, John, Jr., Vine Valley.
Sherman, E. C., Wyoming.
Sherman, J. D., Castile.
Shilling, John T., Egypt.
Slingerland, M. V., Ithaca.
Smith, W. Brown, Syracuse.
Smith, Wing R., Syracuse.
Smith, Theodore J., Geneva.
Smith, Edward M., Geneva.
Smith & Sons, E., Geneva.
Smith, W. Judson, Syracuse.
Snow, Geo. C., Penn Yan.
Spencer, John W., Westfield.
Stace, E., Charlotte.
Stecher Litho. Co., Rochester.
Steele, H. G. & J. S., East Bloomfield.
Steele, S. C., Rochester.
Stewart, John, Rochester.
Stuart, C. H., Newark.
Stuart, C. W., Newark.
Sturtevant, H. P., Keuka.
Sweet, Geo. A., Dansville.
Taber, W. F., Poughkeepsie.
Talcott, B. A., Wolcott.
Taylor, G. C., Holley.
Tenny, W., Hamlin.
Tenny, Delos, North Parma.
Terry, E. O., Weedsport.
Thomas, J. J., Union Springs.
Thompson, J. T., Oneida.
Tower, Geo. P., Youngstown.
Tower, Peter S., Youngstown.
Turner, J. B., Ontario.
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Udell, Foster, Rockport.
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Watson, R. W., Wyoming.
Watson, Wm. G., Rochester.
Weaver, Palmer & Richmond, Rochester.
Weed, Benjamin, Clyde.
Weed, Oscar, North Rose.
Weed, Addison, New Hartford.
Weeks, O. J., West Brighton.
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THIRD ANNUAL REPORT

OF THE

SUPERINTENDENT OF BANKS

RELATIVE TO

FOREIGN MORTGAGE, LOAN

AND

INVESTMENT COMPANIES.

TRANSMITTED TO THE LEGISLATURE MARCH 1, 1893.

ALBANY:
JAMES B. LYON, STATE PRINTER.
1893.

STATE OF NEW YORK.

No. 68.

IN ASSEMBLY,

MARCH 1, 1893.

THIRD ANNUAL REPORT

OF THE

Superintendent of Banks relative to Foreign Mortgage, Loan and Investment Companies.

STATE OF NEW YORK:

BANKING DEPARTMENT,
ALBANY, *March* 1, 1893.

Hon. WILLIAM SULZER,
Speaker of the Assembly:

SIR.— In compliance with the provisions of chapter 689 of the Laws of 1892, I have the honor to present to the Legislature the third annual report of the Superintendent of Banks relative to foreign mortgage, loan and investment companies.

Very respectfully, your obedient servant,

CHARLES M. PRESTON,
Superintendent.

REPORT

OF THE

Superintendent of Banks on Foreign Mortgage Companies, etc.

To the Honorable the Legislature:

In accordance with the provisions of chapter 689 of the Laws of 1892 this report is respectfully submitted. In it are tables giving the names and condition of the companies examined and licensed; the aggregate assets and liabilities; a comparative statement of principal items of assets and liabilities of the companies doing business in the State last year and licensed this year; the annual reports of the several companies properly verified as required by law; the reports of the examiners of the financial condition of the companies as found by them at the time of the examination, after deducting current expenses and every other item not a tangible asset or an enforceable liability; a glossary of terms used; the provisions of chapter 689 of the Laws of 1892 applicable to the supervision of such companies; copies of the blanks used; index.

Of the thirty-one companies licensed to do business in this State for the year ending September 30, 1892, seven have discontinued business in the State, viz.: The Central Loan and Trust Company of Des Moines, Iowa; Knight Investment Company of Wichita, Kansas; the Missouri Trust Company of Sedalia, Mo.; the Howard State Bank of Kansas City, Mo.; the Lombard

Investment Company, Kansas City, Mo.; the Provident Loan and Trust Company of Kansas City, Mo.; the Vermont Investment and Guarantee Company, Orwell, Vt.

The first three, after being re-examined, and having their licenses renewed, surrendered them and withdrew voluntarily from the State, and the Vermont Investment and Guarantee Company withdrew before examination.

Six new companies applied for authority to do business in the State as follows: Chamberlin Investment Company, Denver, Colorado; Fort Worth and Utica Trust Company, Fort Worth, Texas; Gurley Investment Company, Denver, Colorado; Ingersoll Investment Company, Denver, Colorado; Inter-State Mortgage Trust Company, Parsons, Kansas; Superior and Duluth Loan and Debenture Company, West Superior, Wisconsin.

All of these companies having passed a satisfactory examination were licensed. The Gurley Investment Company never having done business in the State and not desiring to, has surrendered its license. This makes the number of companies licensed and authorized to transact business in this State for the fiscal year ending September 30, 1893, twenty-nine, as follows:

Name.	Principal Office.
Belcher (W. C.) Land Mortgage Company......	Fort Worth, Texas.
Bunnell and Eno Investment Company.........	Pine Plains, N. Y.
Chamberlin Investment Company............	Denver, Colorado.
Colorado Loan and Mortgage Company........	Col. Springs, Col.
Colorado Securities Company.................	Denver, Colorado.
Darrow Investment Company..................	Corning, Iowa.
Des Moines Loan and Trust Company..........	Des Moines, Iowa.
Equitable Mortgage Company................	New York city.
Fidelity Loan and Trust Company.............	Sioux City, Iowa.
Fort Worth and Utica Trust Company.........	Fort Worth, Texas.
Georgia Loan and Trust Company............	Americus, Georgia.
Hamilton Loan and Trust Company............	New York city.
Ingersoll Investment Company................	Denver, Colorado.
Inter-State Mortgage Trust Company...........	Parsons, Kansas.

Name.	Principal Office.
Iowa Loan and Trust Company	Des Moines, Iowa.
McKinley-Lanning Loan and Trust Company	Hastings, Nebraska.
Middlesex Banking Company	Middletown, Conn.
Nebraska Loan and Trust Company	Hastings, Nebraska.
New England Loan and Trust Company	New York city.
North American Loan and Trust Company	Chicago, Illinois.
Northwestern Guaranty Loan Company	Minneapolis, Minn.
Northwestern Mortgage Trust Company	Redfield, So. Dak.
Omaha Loan and Trust Company	Omaha, Nebraska.
Security Loan and Trust Company	Des Moines, Iowa.
Security Trust Company	Nashua, N. H.
Superior and Duluth Loan and Debenture Company	West Superior, Wis.
Texas Loan Agency	Corsicana, Texas.
Waddell (R. J.) Investment Company	Ottawa, Kansas.
Watkins (J. B.) Land Mortgage Company	Lawrence, Kansas.

The following is the aggregate of the assets and liabilities reported by these companies for December 31, 1892:

ASSETS.

Loans secured by first liens on real estate	$50,683,858 00
Loans secured by second liens on real estate	1,282,448 00
Earned commissions on debenture loans	713,606 00
Loans on collateral security	1,485,362 00
Loans on personal security	599,512 00
Tax sale certificates	188,871 00
Stocks and bonds	6,360,952 00
Office building	298,627 00
Other real estate	4,746,836 00
Foreclosure account	315,752 00
Premiums paid	134,803 00
Furniture and fixtures	54,092 00
Current expenses	173,153 00
Past-due interest remitted for	756,021 00
Past-due loans remitted for	980,863 00
Due from branch offices and agents	880,088 00
Due from sundry persons	411,645 00
Due from banks and bankers	1,768,197 00

Due on uncompleted loans	$17,708 00
Cash	206,917 00
Other assets	2,399,333 00
Add for cents	161 00
Total	$74,458,805 00

LIABILITIES.

Capital stock paid in	$12,753,036 00
Surplus fund	2,718,963 00
Guaranty fund	249,440 00
Undivided profits	1,007,319 00
Bills payable	2,053,750 00
Debenture bonds outstanding	47,401,845 00
Dividends unpaid	99,229 00
Interest paid in advance by borrowers	124,238 00
Loans paid, but not remitted for	737,670 00
Due borrowers on loans made	315,767 00
Trust savings deposits	2,990 00
Certificates of deposits bearing interest	1,913,902 00
Deposits awaiting investment	1,004,686 00
Other deposits	1,912,873 00
Due to branch offices and agents	385,076 00
Due to banks and bankers	306,620 00
Other liabilities	1,471,323 00
Add for cents	78 00
Total	$74,458,805 00

The following table of material items shows the condition of the companies licensed last year whose licenses have been renewed, as compared with their condition this year.

	January 1, 1892.	January 1, 1893.
Loans secured by first liens on real estate	$43,806,120 00	$49,812,483 00
Loans secured by second liens on real estate	1,746,834 00	1,217,899 00
Loans on collateral security	586,215 00	1,181,508 00
Loans on personal security	288,435 00	359,101 00
Tax sale certificates	193,614 00	187,915 00

	January 1, 1892.	January 1, 1893.
Stocks and bonds	$4,145,566 00	$5,470,328 00
Office buildings	296,417 00	298,627 00
Other real estate	2,943,504 00	3,644,672 00
Foreclosure account	302,832 00	309,939 00
Furniture and fixtures	70,427 00	41,933 00
Past due interest remitted for, but not paid to companies	873,197 00	755,070 00
Past due loans remitted for, but not paid to companies	799,949 00	980,863 00
Due from branch offices and agents	820,063 00	827,339 00
Due from sundry persons	100,658 00	128,869 00
Due from banks and bankers	2,034,128 00	1,726,759 00
Cash	222,821 00	200,135 00
Capital stock paid in	10,210,153 00	10,509,275 00
Excess of surplus fund, guaranty fund and undivided profits over current expenses	2,831,816 00	2,804,641 00
Bills payable	897,729 00	1,340,859 00
Debenture bonds outstanding	41,440,325 00	47,246,845 00
Guaranteed loans outstanding	27,102,922 00	26,733,650 32

This table is perhaps as good an index to the progress and prosperity or otherwise of the companies as can well be obtained from statistics. It shows considerable increase in the amount of real estate and bills payable, and a small increase in foreclosure account and sundry persons' credits, and a decrease in the aggregate of profits and amount due from banks and bankers and cash, which perhaps is not favorable ; but a reduction in the amount of second mortgages and of guaranteed loans outstanding, this contingent liability having been reduced in the aggregate nearly a half a million of dollars in the past year.

There has been an increase in the amount of stocks and bonds, first mortgage loans and capital stock, which shows the general condition of the companies, so far as the interests of their large clientage are concerned, to have improved.

The foregoing gives such information in regard to the financial condition of the corporations licensed to do business in this State by me as is required by the law.

It is generally believed that the most trying period for mortgage companies is past, and that such companies as have been enabled to continue up to this time may confidently look forward to an increased prosperity; and yet there is a considerable amount of land in some of the States mortgaged by them for more than its present cash value, undoubtedly, which land will probably find its way into the real estate accounts of the companies. In one of the companies examined we found mortgages covering all but about 1,000 acres of one of the counties of Kansas west of the line which is now made the western boundary by conservative companies for loans. The other 1,000 acres were most likely covered by the other companies. It is believed by intelligent mortgage company officers that the lands in Western Kansas and Nebraska, now practically unmarketable, will eventually increase in value and become profitable for cultivation, and that the real estate owned by the companies will be a source of profit to them Whether we doubt or accept this theory, it must be admitted that practically the same state of things once existed in relation to the western part of Illinois and parts of Iowa, Missouri and Eastern Kansas, now profitably cultivated and first quality agricultural lands.

I desire to again repeat what was said in my first report and repeated last year in reference to intended investors discriminating in their purchases, and advising that such purchases be limited to companies submitting to the laws of the State and carrying the legal license of this department, as follows:

"I feel it my duty to especially urge that investors in this State contemplating the purchase of western mortgages or debentures, exercise the same caution in selecting their securities for investments that they would if they were buying eastern securities. The fact that the securities of some person or company in the west are not safely placed, ought not to militate against the reputation of other securities placed and negotiated by other companies any more than that the decline in value of a certain railroad stock should depreciate the value of every other railroad stock. The character of the men and their reputation for integrity and business ability, should be as carefully considered in one case as the other, and the securities issued by each company should be examined and valued each by themselves and not because of the reputation good or bad of another company.

"Investors are particularly cautioned against dealing with unlicensed companies or companies who write from some other State offering inducements and soliciting funds for investment. It is pretty safe to assume that unlicensed companies that solicit patronage by letter are either those that have been examined and whose licenses have been withheld as the result of such examination, or such as are afraid to pass the ordeal of an examination."

Respectfully submitted.

CHARLES M. PRESTON,

Superintendent.

APPENDIX.

ANNUAL REPORTS

OF

Mortgage Companies for January 1, 1893.

ANNUAL REPORTS.

THE W. C. BELCHER LAND MORTGAGE COMPANY.

FORT WORTH, TEXAS. ORGANIZED JANUARY, 1885.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$265,048 94
Loans secured by second liens on real estate	41,264 99
Loans on collateral security (schedule "C")	595 00
Tax sale certificates	113 19
Real estate	27,815 62
Premiums paid	13,000 00
Furniture and fixtures	948 48
Current expenses	12,307 90
Past-due interest remitted for, but not paid to us	4,168 72
Past-due loans remitted for, but not paid to us	8,800 00
Due from sundry persons	2,034 14
Due from banks and bankers	25,164 27
Other assets, viz.: Accrued interest not due (on first liens)	8,698 89
Total	$409,960 14

LIABILITIES.	
Capital stock paid in	$53,000 00
Undivided profits	57,906 15
Bills payable	22,800 00
Debenture bonds outstanding (schedule "B")	207,914 00
Interest paid in advance by borrowers	4,020 95
Loans paid, but not remitted for	1,350 00
Certificates of deposit bearing interest	35,465 11
Deposits awaiting investment	8,833 04
Other deposits	1,808 11
Due to branch offices and agents	8,096 08
Other liabilities, viz.:	
Debenture coupons not presented	1,085 85
Equitable Mortgage Company (mortgage assumed)	2,300 00
Accrued interest not due, on debentures and deposits	5,380 85
Total	$409,960 14

When organized? January, 1885.

Under what State laws? Texas.

Principal place of business? Fort Worth, Texas.

Authorized amount of capital? $300,000.

Amount of capital subscribed? $200,000.

What is the personal liability of stockholders? $147,000.

How much of its capital stock is owned by the officers of the company? $131,800.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral. None.

Rates of dividends for past five years? None declared; earnings carried to capital stock.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Usually, yes.

State the sections of country in which loans are made, giving the principal counties? Central and northern Texas.

State the number and amount of mortgages with interest six months or more in arrears? $32,180, in twenty-one mortgages.

Total amount loaned to date? $1,240,583.14.

Total amount of loans paid? $413,116.

Number and amount of loans extended the past two years? $104,495.56; eighty-four loans.

Total amount of loans unpaid and outstanding? Guaranteed, $553,618.20; unguaranteed, $273,848.94, on hand and with trustees.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? $14,870; eight mortgages.

Total amount in process of foreclosure? None.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $58,895.

What are the "other deposits" mentioned in the statements? Deposits by borrowers to pay principal at maturity.

Total amount of debentures certified? $207,914.

Total liability for debenture bonds as per statement? $207,914.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

Trustees for debentures? First National Bank, Charlotte, Mich., for series "A" and "B;" Fidelity Loan and Trust Co., Detroit, Mich., for series "D."

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	Year When			Secured by pledge of first mortgage loans.	Amount of	
		Dated.	Due.	Redeemable.		Security.	Debentures.
A	7	1889	1899	1894	$103,057 03	$103,057 03	$98,210 00
A	6 & 7	1890	1900	1895			
B	6 & 7	1890	1900	1895	101,507 05	101,507 05	96,104 00
B	6 & 7	1891	1901	1896			
B	6 & 7	1892	1902	1897			
D	6	1890	1900	1895	15,505 00	15,505 00	13,600 00
Totals	......	......	......	....	....	$220,069 08	$207,914 00

OFFICERS AND DIRECTORS.

F. S. BELCHER	*President.*
N. HARDING	*Vice-President.*
L. D. COBB	*Treasurer.*
H. H. COBB	*Secretary.*
W. C. BELCHER	*Auditor.*
C. S. COBB	*Director.*
J. D. CALLETT	*Director.*

STATE OF TEXAS, } *ss.:*
COUNTY OF TARRANT. }

I, Horace H. Cobb, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

HORACE H. COBB.

Subscribed and sworn to before me, }
this 10th day of January, 1893. }

JAMES R. ROBINSON,
Notary Public, Tarrant county, Texas.

THE BUNNELL AND ENO INVESTMENT COMPANY.

HELENA, MONTANA. ORGANIZED MAY 12, 1888.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$657,315 00
Loans secured by second liens on real estate	55,352 83
Earned commission on all loans	68,078 80
Loans on collateral security (schedule "C")	44,024 33
Tax sale certificates	8,870 85
Other real estate	40,437 50
Foreclosure accounts	4,670 40
Furniture and fixtures	2,306 01
Current expenses	2,920 95
Past-due interest remitted for, but not paid to us	13,303 30
Past-due loans remitted for, but not paid to us	7,326 54
Due from branch offices and agents	2,466 33
Due from sundry persons	21,165 44
Due from banks and bankers	5,171 50
Cash	207 50
Other assets, viz.: Bills receivable	73,724 30
Total	$1,007,341 58

LIABILITIES.	January 1, 1893.
Capital stock paid in	$352,000 00
Undivided profits	7,735 06
Bills payable	8,550 00
Debenture bonds outstanding (schedule "B")	359,100 00
Debenture bonds on hand	39,400 00
Due borrowers on loans made	19,854 80
Other deposits	18,987 97
Due to branch offices and agents	389 50
Due to banks and bankers	26,332 95
Other liabilities, viz.: Due sundry persons	60,410 12
Notes rediscounted	114,581 18
Total	$1,007 341 58

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
July 1, 1892	$5,000 00	$4,900 00	6
July 1, 1892	9,000 00	9,000 00	6
July 1, 1892	5,000 00	5,000 00	6
July 1, 1892	5,600 00	5,600 00	6
July 1, 1892	1,200 00	1,200 00	6
July 1, 1892	5,000 00	5,000 00	6
July 1, 1892	2,000 00	2,000 00	6
November 1, 1892	7,800 00	7,524 33	6
November 1, 1892	3,800 00	3,800 00	6
Total	$44,400 00	$44,024 33	.....

When organized? May 12, 1888.

Under what State laws? New Jersey.

Principal place of business? In New York State, Pine Plains, and in Montana, Helena.

Authorized amount of capital? $1,000,000.

Amount of capital subscribed and paid in, in cash? $352,000.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $125,100.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? $11,700.

Total amount of its capital stock held by the company as collateral? $44,400.

Rates of dividends for past five years? Ten per cent per annum.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? All examinations are made by the treasurer, Mr. Bunnell, personally.

State the sections of country in which loans are made, giving the principal counties? Montana, Silver Bow, Gallatin and Missoula counties; Idaho, Ade county; and Washington, a few.

State the number and amount of mortgages with interest six months or more in arrears? Seventy-four; $61,543.10.

Total amount loaned to date? $2,590,473.35.

Total amount of loans paid? $1,137,965.25.

Number and amount of loans extended the past two years? Fifty; $53.260.

Total amount of loans unpaid and outstanding? Guaranteed, $692,808.10; unguaranteed, $759,700.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? $2,057.

Number and amount of mortgages foreclosed in the past year? Twenty-six; $19,715.

Total amount in process of foreclosure? $37,005.

State the amount of interest that has fallen due, and the amount paid, for each of the following periods: Past two years, fallen due, $144,657; paid, $147,665. Past one year, fallen due, $75,469.75; paid, $78,126.30. Past six months, fallen due, $36.877.30; paid, $42,432.

Of what does the present "foreclosure account" consist? Interest, costs and expenses incurred on properties and second mortgages.

Is the company subject to examination by local State officers? Yes. Bank commissioners, New Jersey.

Amount of securities sold in New York State for the past year? $264,750.

What are the "other deposits" mentioned in the statements? Partial payments on first and second mortgages and coupons.

Total amount of debentures certified? $398,500.

Less amount on hand and with agents? $39,400.

Total liability for debenture bonds as per statement? $359,100.

Trustees for debentures? Holland Trust Company, New York city, for series "A," "B," "C," "D" and "E;" and Atlantic Trust Company, New York city, for series "F," "G." "H" and "I."

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	Year When			Secured by pledge of first mortgage loans.	Amount of	
		Dated.	Due.	Redeemable.		Security.	Debentures.
		1891.	1896.	1896.			
A	6	Jan. 1	Jan. 1	Jan. 1	$52,750 00	$52,750 00	$50,000 00
B	6	Feb. 1	Feb. 1	Feb. 1	60,000 00	60,000 00	50.000 00
C	6	May 1	May 1	May 1	52,515 00	52,515 00	50,000 00
D	6	July 1	July 1	July 1	60,000 00	60,000 00	50,000 00
E	6	Sept. 1	Sept. 1	Sept. 1	52,800 00	52,800 00	50,000 00
		1892.	1897.	1897.			
F	6	Feb. 1	Feb. 1	Feb. 1	52,650 00	52,650 00	50,000 00
G	6	May 1	May 1	May 1	42,850 00	42,850 00	40,000 00
H	6	Oct. 1	Oct. 1	Oct. 1	52,550 00	52,550 00	36,600 00
I	6	Nov. 1	Nov. 1	Nov. 1	25,800 00	25,800 00	21,900 00
Totals	......	....	....	....	$451,915 00	$451,915 00	$398,500 00

OFFICERS AND DIRECTORS.

WILLIAM S. ENO	*President.*
SIDNEY E. MORSE, MATT. H. ELLIS,	*Vice-Presidents.*
L. B. BUNNELL	*Treasurer.*
L. B. MORSE	*Secretary.*
FREDERIC SHONNARD	*Director.*
THOMAS M. WALLER	*Director.*
WILLIAM BOSTWICK	*Director.*

STATE OF MONTANA,
COUNTY OF LEWIS AND CLARKE. } *ss.:*

I, L. B. Bunnell, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

L. B. BUNNELL,
Treasurer.

Subscribed and sworn to before me,
this 7th day of January, 1893. }

R. T. LOVE,
Notary Public.

THE CHAMBERLIN INVESTMENT COMPANY.

DENVER, COLORADO. ORGANIZED APRIL 26, 1889.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$369,193 04
Loans secured by second liens on real estate	52,845 00
Loans on collateral security (schedule "C")	101,346 25
Loans on personal security	141,837 32
Stocks and bonds (see schedule "A")	776,998 67
Other real estate	905,483 94
Furniture and fixtures	7,585 71
Current expenses	50,776 00
Due from branch offices and agents	25,799 08
Due from sundry persons	272,593 95
Due from banks and bankers	24,475 10
Cash	390 02
Total	$2,729,324 08

LIABILITIES.	
Capital stock paid in	$1,473,979 15
Surplus fund	368,484 84
Undivided profits	32,065 60
Bills payable	627,756 29
Dividends unpaid	3,259 08
Certificates of deposit bearing interest	2,085 00
Other liabilities, viz.: Accounts payable	221,694 12
Total	$2,729,324 08

SCHEDULE "C."

Loans on Collateral Securities.

NUMBER OF LOAN.	Date of loan.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
E. A. T.	June 1, 1891	$2,500 00	$2,500 00	10
O. E. M	June 30, 1891	47,000 00	5,000 00	10
O. E. M	July 15, 1891		2,632 20	12
O. E. M	July 28, 1891		2,675 00	12
O. E. M	August 22, 1891		552 56	12
O. E. M	August 4, 1892		7,000 00	12
M A. McC	July 13, 1891	500 00	100 00	7
W. M. G	August 6, 1891	1,000 00	200 00	7
C. W. D	January 14, 1892	11,000 00	5,500 00	5
P. A. Co	March 3, 1891	24,924 00	10,500 00	.....
P. A. Co	February 29, 1892		1,000 00	.....
C. K	August 22, 1892	8,800 00	9,636 00	10
D. C. L. Co.	August 23, 1892	7,500 00	13,928 15	8
F. R. W.	September 17, 1892	50,100 00	40,122 34	6
Total	....	$153,824 00	$101,346 25	.....

When organized? April 26, 1889.

Under what State laws? Colorado.

Principal place of business? Denver, Colorado.

Authorized amount of capital? Preferred, $500,000; common, $1,000,000.

Amount of capital subscribed? $1,473,979.15.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $1,000,000.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends since organization? 1890, fifteen per cent; 1891, twenty-five per cent, and special property dividend of forty-eight per cent; 1892, five per cent on common and ten per cent on preferred.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? All done by some officer of the company.

State the sections of country in which loans are made, giving the principal counties? Principally in the cities of Denver and Pueblo, Colorado, and Fort Worth and San Antonio, Texas.

State the number and amount of mortgages with interest six months or more in arrears? Sixty-five; $92,770.34.

Total amount loaned to date? No record.

Total amount of loans paid? No record.

Number and amount of loans extended the past two years? No record.

Total amount of loans unpaid and outstanding? Guaranteed, $723,736.98; unguaranteed, $986,517.52.

Do you advance interest on unguaranteed loans? Sometimes.

How much have you so advanced? No record.

Number and amount of mortgages foreclosed in the past year? None.

Total amount in process of foreclosure? None.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $69,632.50.

Total amount of debentures certified? None.

Less amount on hand and with agents? None.

Total liability for debenture bonds as per statement? None.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Fort Worth & Arl. Hts. L. & I. Co., 3,557⅓ shares	$247,406 71	$355,733 33	$355,733 33
Colorado Mineral Pal. Co., 600 shares	6,000 00	6,000 00	....
Colo. and Nott. L. and I. Co., 99½ shares	10,875 00	9,950 00	10,875 00
Kibler Stove Co., 70 shares	6,300 00	7,000 00	7,000 00
Central Park Land Co., 600 shares	6,000 00	6,000 00	3,000 00
Glen Park Co., 129 shares	2,841 97	12,900 00	2,841 97
E. Pueblo L. and Inv. Co., 375 shares	1,875 00	37,500 00	1,875 00
Union National Bank, Denver, 250 shares	27,500 00	25,000 00	27,500 00
American National Bank, 12 shares	1,260 00	1,200 00	1,320 00
Spokane Arl. Hts. L. and Inv. Co., 1,245 shares	37,380 00	124,500 00	37,380 00
Hitchcock Knitting Mills Co., 10 shares	1,000 00	1,000 00	1,000 00
San Luis Hot Springs Co., 125 shares	3,500 00	12,500 00	3,500 00
Nob Hill Land Co., 120 shares	1,000 00	12,000 00	1,000 00
Irving Investment Co., 27½ shares	2,750 00	2,750 00	2,750 00
Denver and Idaho Land Co., 413½ shares	13,480 00	41,350 00	24,810 00
Watertown Investment Co., 57½ shares	5,290 00	5,750 00	5,290 00
Capitol Hill Investment Co., 21 shares	2,181 70	2,100 00	2,100 00
Empire Land and Investment Co., 38 shares	1,900 00	3,800 00	1,900 00
Midland and Colo. Land and Inv. Co., 45 shares	5,032 50	4,500 00	5,032 50
Wolverine Land Co., 303 shares	15,150 00	30,300 00	15,150 00
Tuxedo Real Estate Co., 10 shares	1,000 00	1,000 00	1,000 00
Columbian Land and Dev. Co., 336½ shares	16,825 00	33,650 00	16,825 00
Fort Worth Real Estate Co., 45 shares	2,250 00	4,500 00	2,700 00
Fairmount Building Co., 50 shares	2,625 00	5,000 00	2,625 00
Empire State Land Co., 10 shares	500 00	1,000 00	500 00
Utica Land Co., 105 shares	5,250 00	10,500 00	5,250 00
Pueblo Consolidated Land Co., 407 shares	20,350 00	40,700 00	20,350 00
Asbury Land Co., 450 shares	11,250 00	45,000 00	11,250 00
Denver Consolidated Land Co., 2,864 shares	59,480 00	286,400 00	71,600 00
San Antonio Pk. Ter. Land Co., 2,137 shares	54,987 20	213,700 00	54,987 20
Montclair Ter. Land Co., 100 shares	4,000 00	10,000 00	4,000 00
Denver Steel Co., 4 shares	400 00	400 00	....
Corpus Christi Real Estate Co., 50 shares	2,500 00	5,000 00	2,500 00
Burlington Land Co., 127 shares	19,880 00	12,700 00	25,400 00
St. Lawrence Manufacturing Co., 70 shares	7,000 00	7,000 00	3,500 00
Buffalo and Colorado Land Co., 20 shares	1,000 00	2,000 00	1,000 00
Sheridan Hts. Land and Imp. Co., 250 shares	10,000 00	25,000 00	10,000 00
Lake Como Land and Imp. Co., 40 shares	2,000 00	4,000 00	2,500 00
Fort Worth Land and Imp. Co., 350 shares	18,000 00	35,000 00	26,250 00
Cortez Land and Inv. Co, 2,942 shares	2,942 00	294,200 00	2,942 00
Forth Worth Windsor Land and Imp. Co., 145 shares	7,225 00	14,500 00	7,225 00
San A. Wash. Hts. Land Co., 30 shares	650 00	3,000 00	650 00
Clark Investment Co., 109 4-5 shares	8,621 66	10,980 00	8,121 66
Colorado Oil and Gas Co., 600 shares	10 00	600 00	10 00
Aurora Land Co., 40 shares	4,000 00	4,000 00	4,000 00
Alamo Hts. Land and Imp. Co., 2,000 shares	50,000 00	200,000 00	50,000 00
South Denver Gardens Co., 166⅔ shares	10,315 89	16,666 67	10,315 89
Morris Investment Co., 498 shares	39,802 66	49,800 00	39,802 66
San Antonio Building and Land Co., 30 shares	2,925 00	3,000 00	3,000 00
Pueblo City Railway Co., 250 1-11 shares	5 00	25,009 00	5,002 00
San Antonio Wash. Hts. Land Co., 30 bonds	6,000 00	15,000 00	11,250 00
Uplands Park Imp. Co., 11¾ bonds	1,481 38	1,175 00	1,175 00
Denver Land and Building Co., 50 bonds	5,000 00	5,000 00	5,000 00
Total	$776,998 67	$2,087,314 00	$920,789 21

OFFICERS AND DIRECTORS.

H. B. Chamberlin	*President.*
A. W. Chamberlin	*First Vice-President.*
F. J. Chamberlin	*Second Vice-President.*
D. F. Basden	*Third Vice-President.*
W. H. Chamberlin	*Treasurer.*
J. I. Weed	*Secretary.*
H. W. Tallant	*Assistant Secretary.*
F. B. Gibson	*Director.*
Robert Chamberlin	*Director.*

STATE OF COLORADO, }
County of Arapahoe. } *ss.:*

I, J. I. Weed, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

J. I. WEED.

Subscribed and sworn to before me, }
this 28th day of January, 1893. }

James L. Bickford,
Notary Public.

My commission expires June 22, 1895.

COLORADO LOAN AND MORTGAGE COMPANY.

Colorado Springs, Colorado. Organized September 29, 1888.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$12,990 00
Loans secured by second liens on real estate	13,361 77
Loans on collateral security (schedule "C")	1,975 00
Loans on personal security	264 00
Tax sale certificates	1,143 44
Other real estate	1,636 94
Furniture and fixtures	513 67
Past-due interest remitted for, but not paid to us*	2,252 10
Due from sundry persons	2,858 62
Due from banks and bankers	4,564 09
Cash	1,276 83
Total	$42,836 46

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* About all due January 1, 1893.

LIABILITIES.	January 1, 1893
Capital stock paid in	$30,000 00
Guaranty fund	6,000 00
Undivided profits	4,334 37
Dividends unpaid	600 00
Due borrowers on loans made	1,168 70
Certificates of deposit bearing interest	100 00
Deposits awaiting investment	303 00
Foreclosure account (profit)	330 39
Total	$42,836 46

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
October 1, 1892	$5,000 00	$1,375 00	8
July 30, 1892	2,000 00	600 00	8

When organized? September 29, 1888.

Under what State laws? Colorado.

Principal place of business? Colorado Springs.

Authorized amount of capital? $30,000.

Amount of capital subscribed? $30,000.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers of the company? $23,100.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? $1,375.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Sixteen quarterly dividends of two per cent each.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Always by an official of the company.

State the sections of country in which loans are made, giving the principal counties? El Paso, Pueblo, Fremont, Chaffee, Park, Mesa, Garfield, Pitkin, La Plata and Las Animas, all in Colorado.

State the number and amount of mortgages with interest six months or more in arrears? None.

Total amount loaned to date? $631,277.

Total amount of loans paid? $80,922.

Number and amount of loans extended the past two years? Estimated, $1,000.

Total amount of loans unpaid and outstanding? Guaranteed, $479,375; unguaranteed, $70,980.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? $170.

Number and amount of mortgages foreclosed in the past year? $3,658; fifteen loans; ten closed out at a profit.

Total amount in process of foreclosure? $250.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $45,590.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Not one cent.

OFFICERS AND DIRECTORS.

George W. Walker	*President.*
George E. Lindley	*Vice-President.*
Kirke H. Field	*Secretary and Treasurer.*
Hobart B. Ives	*Director.*
Frank G. Hotchkiss	*Director.*
W. R. Logan	*Director.*
A. H. Hunt	*Director.*

STATE OF COLORADO, } *ss.:*
County of El Paso. }

I, George W. Walker, president of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

GEORGE W. WALKER.

Subscribed and sworn to before me, }
this 9th day of January, 1893. }

L. E. Dwinell,
Notary Public.

My commission expires October 28, 1895.

THE COLORADO SECURITIES COMPANY.

Denver, Colorado. Organized 1886.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$86,737 26
Loans secured by second liens on real estate	21,309 74
Loans on collateral security (schedule "C") Loans on personal security	10,159 47
Tax sale certificates	6,708 87
Stocks and bonds (see schedule "A")	13,473 14
Other real estate	23,702 83
Furniture and fixtures	2,171 02
Past-due interest remitted for, but not paid to us	21,154 47
Due from branch offices and agents	17,294 68
Due from sundry persons	15,666 10
Due from banks and bankers	6,836 88
Due on uncompleted loans	1,013 18
Cash	288 95
Total	$226,516 59

LIABILITIES.	January 1, 1893.
Capital stock paid in	$70,000 00
Surplus fund	736 49
Undivided profits	26,765 02
Bills payable	38,000 00
Dividends unpaid	801 14
Due borrowers on loans made	32,218 24
Deposits awaiting investment	29,235 64
Other deposits	12,837 43
Due to branch offices and agents	10,780 30
Other liabilities, viz.: Personal accounts	5,142 33
Total	$226,516 59

When organized? 1886.

Under what State laws? Colorado.

Principal place of business? Denver.

Authorized amount of capital? $100,000.

Amount of capital subscribed? $70,000.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers of the company? None.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? None been declared.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? All principal counties in the State.

State the number and amount of mortgages with interest six months or more in arrears? Two hundred and twenty-nine; $99,400.

Total amount loaned to date? $1,860,259.

Total amount of loans paid? $700,230.

Number and amount of loans extended? $43,750.

Total amount of loans unpaid and outstanding? Guaranteed, $1,149,239; unguaranteed, $10,800.

Do you advance interest on unguaranteed loans? No.

How much have you so advanced? None.

Number and amount of mortgages foreclosed in the past year? Fifty-three; $40,505.

Total amount in process of foreclosure? $5,750.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $35,150.

Total liabilities for debenture bonds as per statement? None.

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.	Market value.
Graphic Publishing Co., five shares	$50 00	$50 00	$50 00
Denver Real Estate Exchange. one share	50 00	50 00	50 00
Equitable Home-Building Co., six hundred shares	7,600 00	40,000 00	7,600 00
Alamosa Creek Canal stock, thirty-one and one-half shares	3,262 50	3,150 00	3,262 50
Sunnyside Park Ditch Co., seventy-five shares	2,510 64	7,500 00	3,750 00
	$13,473 14	$50,750 00	$14,712 50

OFFICERS AND DIRECTORS.

H. J. Aldrich	*President and Treasurer.*
E. A. Fay	*Secretary.*
F. E. Ottley	*Director.*

STATE OF COLORADO, } *ss.:*
County of Arapahoe. }

I, H. J. Aldrich, president of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

H. J. ALDRICH.

Subscribed and sworn to before me, }
this 18th day of February, 1893. }

A. B. Coulson,
Notary Public.

My commission expires August 13, 1894.

THE DARROW INVESTMENT COMPANY.

Corning, Iowa. Organized July 15, 1890.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$16,346 00
Loans secured by second liens on real estate	7,433 29
Loans on collateral security (schedule "C")	6,252 40
Tax sale certificates	20,459 78
Stocks and bonds (see schedule "A")	1,350 00
Real estate	3,893 29
Current expenses	338 35
Due from sundry persons	1,600 98
Cash	6,442 06
Total	$64,116 15

LIABILITIES.	January 1, 1893.
Capital stock paid in	$20,000 00
Undivided profits	2,962 10
Bills payable	19,254 47
Interest paid in advance by borrowers	3,468 19
Deposits awaiting investment	16,600 00
Other deposits	1,831 39
Total	$64,116 15

When organized? July 15, 1890.

Under what State laws? Iowa.

Principal place of business? Corning, Iowa.

Authorized amount of capital? $100,000.

Amount of capital subscribed? $20,000.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers of the company? $9,200.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? None.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Usually.

State the sections of country in which loans are made, giving the principal counties? Southern Iowa and northern Missouri.

State the number and amount of mortgages with interest six months or more in arrears? None.

Total amount loaned to date? $498,475.

Total amount of loans unpaid and outstanding? Guaranteed; none.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? None.

Total amount in process of foreclosure? None.

Is the company subject to examination by local State officers? No.

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Iowa Butter and Cheese Company, Corning, Iowa	$1,350 00	$1,350 00	$1,350 00

OFFICERS AND DIRECTORS.

LEW E. DARROW	*President.*
CHAS. C. NORTON	*Vice-President.*
F. M. WIDNER	*Secretary and Treasurer.*

STATE OF IOWA, } ss.:
COUNTY OF ADAMS. }

I, F. M. Widner, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

F. M. WIDNER,
Secretary.

Subscribed and sworn to before me, }
this 28th day of January, 1893. }

W. W. RUNYON,
Notary Public.

THE DES MOINES LOAN AND TRUST COMPANY.

DES MOINES, IOWA. ORGANIZED MAY 13, 1885.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$53,523 13
Loans secured by second liens on real estate	21,283 66
Loans on collateral security (schedule "C")	1,138 50
Loans on personal security	1,894 94
Tax sale certificates	9,512 98
Stocks and bonds (see schedule "A")	78,376 00
Other real estate	64,785 97
Foreclosure account	432 29
Furniture and fixtures	1,095 92
Past-due interest remitted for, but not paid to us	20,109 13
Due from sundry persons	5,515 02
Due from banks and bankers	10,579 09
Due on uncompleted loans	195 60
Cash	210 54
Other assets, viz:	
Capital stock subscribed, not paid for	6,199 74
Insurance account	46 75
Unsold debenture bonds	11,650 00
Sheriffs' certificates	1,816 92
Earned interest on assets	13,960 08
Team, harness and buggy	170 00
Judgments	10 65
Total	$302,506 91

LIABILITIES.	January 1, 1893.
Capital stock paid in	$236,050 00
Undivided profits	14,701 75
Bills payable	5,000 00
Debenture bonds outstanding (schedule "B")	39,690 00
Interest paid in advance by borrowers	74 10
Loans paid, but not remitted for	6,050 00
Certificates of deposit bearing interest	325 00
Due to branch offices and agents	25 00
Other liabilities, viz.:	
Sundry personal accounts	210 70
Accrued interest on liabilities	380 36
Total	$302,506 91

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
				per ct.
1729	February 2, 1892	$175 00	$138 50	8
1735	February 4, 1892	1,000 00	1,000 00	6

When organized? May 13, 1885.

Under what State laws? Iowa.

Principal place of business? Des Moines, Iowa.

Authorized amount of capital? $500,000.

Amount of capital subscribed? $236,050.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers and directors of the company? $52,000.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of other loans due from directors? None.

Total amount of its capital stock held by the company as collateral? $1,000.

Rates of dividends for past five years? Four per cent semi-annually up to July 1, 1891.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Iowa — Polk, Jasper, Adair, Webster, Kossuth, Guthrie and Hamilton counties. Have heretofore made about one-fourth of loans in South Dakota, Yankton, Brookings, McCook, Spink, Faulk, Brown, Miner, Kingsbury, Sanborn and Jerauld counties.

State the number and amount of mortgages with interest six months or more in arrears? 164; $82,405.

Total amount loaned to date? $1,096,900.

Total amount of loans paid? $351,630; $745,270.

Number and amount of loans extended the past two years? Twenty-two; $16,725.

Total amount of loans unpaid and outstanding? Guaranteed, $664,963; unguaranteed, $80,307; $745,270.

Do you advance interest on unguaranteed loans? No.

How much have you so advanced? None.

Number and amount of mortgages foreclosed in the past year? Seven; $550.46.

Total amount in process of foreclosure? $5,063.91.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $11,550.

Total amount of debentures certified? $39,690.

Less amount on hand and with agents? $11,650.

Total liability for debenture bonds as per statement? $28,040.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Not a dollar.

Trustees for debentures? Geo. W. Baker and E. S. Wishard, for class "A;" Illinois Trust and Savings Bank of Chicago, for class "B."

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			SECURED BY PLEDGE OF			AMOUNT OF	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mortgage loans.	Real estate.	Security.	Debentures.
Class "A:"									
A	7	1887	1897	1892	*$5,330 00	$11,310 30	$2,000 00	$18,640 30	$1,000 00
A	7	1888	1898	1893					200 00
B	7	1888	1898	1893					1,100 00
B	7	1888	1893	1890					1,000 00
C	7	1889	1899	1894					4,700 00
D	7	1889	1899	1894					2,100 00
D	7	1890	1893	1891					540 00
D	7	1890	1900	1895					150 00
E	7	1890	1900	1895					2,100 00
E	7	1891	1901	1896					1,050 00
E	6½	1891	1893	1893					600 00
Class "B:"									
A	6	1890	1900	1895	25,425 00	....	....	25,425 00	5,650 00
A	6	1891	1900	1895					6,000 00
A	6½	1891	1901	1896					12,500 00
A	6	1892	1897	1894					1,000 00
Totals	......	....	....	....	$30,755 00	$11,310 30	$2,000 00	$44,065 30	$39,690 00

* $1,900 of the amount stated is debenture bonds secured by pledge of first mortgages.

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.	Market value.
Des Moines Water Power and Elec. Co. gold bds., due 1911; int. 6 p.c., semi-an.	$10,500 00	$12,000 00	$12,000 00
Northwestern Land Co. bonds, running ten years from July 1, 1892; interest 5 per cent, semi-annually	67,876 00	67,876 00	65,000 00
Total	$78,376 00	$79,876 00	$77,000 00

OFFICERS AND DIRECTORS.

E. S. Wishard	*President.*
L. W. Goode	*Vice-President.*
J. B. Jones	*Secretary.*
W. L. Read	*Director.*
J. P. Davis	*Director.*

STATE OF IOWA,
County of Polk. } ss. :

I, E. S. Wishard, president of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

E. S. WISHARD.

Subscribed and sworn to before me,
this 16th day of January, 1893. }

Frank Cummins,
Notary Public in and for Polk county, Iowa.

THE EQUITABLE MORTGAGE COMPANY, KANSAS CITY.

New York, N. Y. Organized July 26, 1884.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$12,308,880 40
Loans secured by second liens on real estate	343,317 99
Loans on collateral security (schedule "C")	194,802 00
Loans on personal security	28,129 53
Tax sale certificates	30,448 22
Stocks and bonds (see schedule "A")	3,051,125 00
Other real estate	184,502 85
Premiums paid	102,008 50

Current expenses	$55,741 28
Past-due interest remitted for, but not paid to us	116,932 62
Past-due loans remitted for, but not paid to us	685,497 35
Due from branch offices and agents	704,499 40
Due from banks and bankers	592,455 96
Cash	34,734 01
Total	$18,433,075 11

LIABILITIES.

Capital stock paid in	$2,100,000 00
Surplus fund	900,000 00
Guaranty fund	52,018 01
Undivided profits	108,379 37
Bills payable	676,705 30
Debenture bonds outstanding (schedule "B")	13,073,326 00
Interest paid in advance by borrowers	19,596 20
Loans paid, but not remitted for	527,872 92
Due borrowers on loans made	93,740 64
Certificates of deposit bearing interest	569,303 59
Deposits awaiting investment	28,704 00
Due to branch offices and agents	283,429 08
Total	$18,433,075 11

SCHEDULE "C."

LOANS ON COLLATERAL SECURITY.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
			per ct.
January 1, 1891	$5,750 00	$5,750 00	10
May 30, 1891	11,000 00	10,000 00	6
April 20, 1892	6,000 00	6,000 00	6
October 27, 1892	5,000 00	4,000 00	6
December 21, 1892	1,000 00	800 00	6
December 31, 1892	126,252 00	126,252 00	.....
September 15, 1892	42,000 00	42,000 00	.....
Total	....	$194,802 00	.....

When organized? July 26, 1884.

Under what State laws? Missouri.

Principal place of business? New York, N. Y.

Authorized amount of capital? $4,000,000.

Amount of capital subscribed? $2,100,000.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers of the company $133,000.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Ten per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Nebraska, Colorado, Iowa, Kansas, Missouri, Texas, Mississippi, Louisiana, Alabama, Georgia and Arkansas.

State the number and amount of mortgages with interest six months or more in arrears? No exact figures.

Total amount loaned to date? $19,969,653.73.

Total amount of loans paid? $5,229,017.88.

Number and amount of loans extended the past two years? No exact figures at hand.

Total amount of loans unpaid and outstanding? Guaranteed, $2,052,062.50.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? No exact figures at hand.

Total amount in process of foreclosure and collection? $396,684.67.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $231,060.

Total amount of debentures certified? $13,397,926.

Less amount on hand and with agents? $324,600.

Total liability for debenture bonds as per statement? $13,073,326.

Trustees for debentures? New York Security and Trust Co., for series 1 to 58; Union Trust Co., N. Y., for series 60 to 75; Kansas City Safe Deposit and Savings Bank, for series A to J and AA to 22; American National Bank, Kansas City, for series 1 and 2, 7 per cent; Chas. Seymour Grempel and Harvey Ranking, English; J. C. de Vries, D. W. H. Patijn and C. Van Eghen, Holland; Imperial Trusts Co., Canadian.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	Year When			Secured by Pledge of			Amount of	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mortgage loans.	Stocks and bonds.	Security.	Debentures.
1	6	1886	1896	1891	$100,072 30	....	....	$100,072 30	$100,000 00
2–21	6	1887	1897	1892	1,963,883 48	....	....	1,963,883 48	1,963,000 00
22–24	6	1888	1898	1893	300,075 06	....	....	300,075 06	300,000 00
25	6	1888–9	1898–9	1894–6	100,014 34	....	....	100,014 34	100,000 00
26–34	6	1888	1898	1893	900,529 82	....	....	900,529 82	900,000 00
35	6	1889	1899	1894–6	100,104 90	....	....	100,104 90	100,000 00
36–38	6	1888	1898	1893	300,178 78	....	....	300,178 78	300,000 00
39–44	6	1889	1894	1892	536,216 70	....	....	536,216 70	536,000 00
45	6	1889	1899	1894–7	100,034 08	....	....	100,034 08	100,000 00
46–51	6	1889	1894	1892	370,271 18	....	....	370,271 18	370,000 00
52–54	6	1890	1900	1895	70,846 42	....	....	70,846 42	70,000 00
55	6	1889–90	1899–1900	1894–5	20,024 27	....	....	20,024 27	20,000 00
56–58	6	1890	1900	1895	17,189 42	....	....	17,189 42	17,000 00
60–65	6	1891	1901	1896	582,709 45	....	....	582,709 45	582,400 00
66–72	6	1892	1902	1897	672,197 99	....	....	672,197 99	672,000 00
75	5	1892	1902	1897	63,614 48	....	....	63,614 48	63,000 00
A–D	7	1887	1894	1890	122,890 30	$303,371 58	....	426,261 88	400,000 00
E–J	7	1888	1895	1891	607,919 61	....	....	607,919 61	600,000 00
1 and 2	7	1886–7	1896–7	1889–92	....	6,068 90	....	6,068 90	5,300 00
AA–CC	7	1888	1895	1891	....	....	$301,000 00	301,000 00	300,000 00
DD–JJ	7	1889	1896	1892	....	....	702,800 00	702,800 00	700,000 00
KK–LL	7	1890	1897	1893	....	....	107,500 00	107,500 00	106,500 00
MM–NN	6	1890	1897	1893	....	....	147,400 00	147,400 00	146,900 00
OO–QQ	6	1892	1902	1897	....	....	300,000 00	300,000 00	300,000 00
English	5	1888–92	3, 5, 7 and 10 years		4,398,255 27	....	....	4,398,255 27	4,393,026 00
Holland	5	1892	1902	1899	379,641 01	....	....	379,641 01	216,100 00
Canadian	5	1891	1901	1896	39,112 03	....	....	39,112 03	36,700 00
Totals	......	....	....	....	$11,745,780 89	$309,440 48	$1,558,700 00	$13,613,921 37	$13,397,926 00

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Par value.	Book value.
Bank of Garden City stock	$20,400 00	$20,400 00
Bank of Little Rock stock	157,300 00	173,030 00
Imperial Trusts Co. stock	50,000 00	55,000 00
Merchants & Farmers' Bank, Shreveport, stk.	150,600 00	165,660 00
First National Bank, Garden City, stock	31,500 00	34,675 00
Delta Trust and Banking Co. stock	141,100 00	176,375 00
Kansas City Safe Deposit & Savings Bank stk.	100,000 00	124,120 00
Bank of Pine Bluff stock	96,500 00	106,150 00
Chicago Vault Co. stock	5,000 00	5,000 00
Montrose Investment Co. stock	17,500 00	17,500 00
Weatherford Mineral Wells & N. W. Ry. bds.	498,000 00	498,000 00
Pine Bluff Water and Light Co. bonds	250,000 00	250,000 00
Washington Irrigation and Land Co. bonds	200,000 00	200,000 00
Payette Valley Irrigation & W. Power Co. bds.	200,000 00	200,000 00
Leavenworth City & Ft. Leven'h water bds.	191,000 00	191,000 00
Talbot Co., Ga., court house bonds	12,000 00	12,041 25
Arizona Territory funding bonds	400,000 00	400,000 00
Atlanta, Ga., water bonds	2,000 00	2,000 00
Waterville & Fairfield Ry. & Light Co. bds	78,000 00	78,000 00
Marlboro, Mass., water loan bonds	42,000 00	43,386 00
Minnehaha Co., Dak., court house bonds	63,000 00	63,000 00
Saginaw, Mich., city hall bonds	41,000 00	41,871 25
Minneapolis, Minn., park bonds	35,000 00	36,050 00
Rutherford, N. J., street and sewer bonds	43,000 00	43,000 00
Hardin Co., Ohio, pike and ditch bonds	21,500 00	21,500 00
Philadelphia & Reading 1st preference inc. bds.	40,000 00	30,650 00
Oswego, Kan., water bonds	23,000 00	23,000 00
Natchez Water and Sewer Co. bonds	138,000 00	138,000 00
Marion Co., Texas, bonds	500 00	500 00
Kansas school district bonds	3,225 00	3,225 00
Total	$3,051,125 00	$3,153,133 50

OFFICERS AND DIRECTORS.

CHARLES N. FOWLER	*President.*
CHARLES BENJAMIN WILKINSON	*Vice-President.*
S. R. BERTRON	*Vice-President.*
B. P. SHAWHAN	*Secretary and Treasurer.*
N. F. THOMPSON	*Assistant Treasurer.*
HON. WILLIAM WARNER	*Director.*
SIR HENRY CARTWRIGHT	*Director.*
EDWARD H. HOBBS	*Director.*

STATE OF NEW YORK, } *ss.:*
COUNTY OF NEW YORK. }

I, N. F. Thompson, assistant treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

N. F. THOMPSON,
Assistant Treasurer.

Subscribed and sworn to before me, }
this 18th day of February, 1893. }

A. W. CHAMBERLAIN,
Notary Public, New York county, N. Y.

THE FIDELITY LOAN AND TRUST COMPANY.

Sioux City, Iowa. Organized, 1886.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$4,313,202 00
Loans secured by second liens on real estate	10,958 82
Earned commission on debenture loans	345,188 55
Loans on collateral security (schedule "C")	348,808 98
Loans on personal security	684 68
Tax sale certificates	13,019 92
Stocks and bonds (see schedule "A")	492,495 00
Other real estate	9,700 59
Foreclosure account	3,449 48
Furniture and fixtures	2,500 00
Past-due interest remitted for, but not paid to us	34.874 37
Due from branch offices and agents	464 53
Due from sundry persons	822 43
Due from banks and bankers	54,567 87
Cash	17,835 38
Other assets, viz.:	
Due from corporations	84,534 84
Accrued interest on loans and other securities in excess of that accrued on debenture bonds and bills payable	47,277 87
Total	$5,780,385 31

LIABILITIES.	
Capital stock paid in	$486,300 00
Surplus fund	90,000 00
Undivided profits	62,017 19
Bills payable	448,125 00
Debenture bonds outstanding (schedule "B")	3,905,664 49
Dividends unpaid, due January 10, 1893	14,589 00
Interest paid in advance by borrowers	18,679 86
Loans paid, but not remitted for	16,690 00
Due borrowers on loans made	128,838 09
Certificates of deposit bearing interest	234,356 53
Other deposits	36,980 24
Due to branch offices and agents	6,988 46
Due to banks and bankers	8,084 73
Other liabilities, viz.:	
Rediscounts	305,000 00
Funds awaiting investment	18,071 72
Total	$5,780,385 31

SCHEDULE "C."

Loans on Collateral Securities.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
			per ct.
September 1, 1892	$5,000 00	$3,130 55	8
April 6, 1892	500 00	228 20	12
June 1, 1892	100 00	35 00	12
June 1, 1892	250 00	100 60	12
August 8, 1892	1,248 00	1,248 00	8
September 1, 1892	2,037 98	2,037 98	8
September 29, 1892	2,393 45	2,393 45	8
November 1, 1892	1,872 00	1,872 00	8
October 1, 1892	3,343 60	3,343 60	8
October 12, 1892	624 00	624 00	8
July 15, 1892	21,000 00	15,000 00	7
July 9, 1892	7,000 00	5,000 00	7
October 22, 1892	70,000 00	50,000 00	7
July 25, 1892	11,350 00	10,000 00	7
August 1, 1892	7,000 00	5,000 00	7
August 9, 1892	11,350 00	10,000 00	7
August 15, 1892	11,350 00	10,000 00	7
August 17, 1892	5,625 00	5,000 00	7
October 12, 1892	7,000 00	5,000 00	7
October 18, 1892	14,000 00	10,000 00	7
September 15, 1892	14,000 00	10,000 00	7
September 23, 1892	14,000 00	10,000 00	7
December 27, 1892	75,000 00	50,000 00	7
October 4, 1892	7,000 00	5,000 00	7
October 10, 1892	7,000 00	5,000 00	7
October 14, 1892	7,000 00	5,000 00	7
October 1, 1892	30,000 00	14,000 00	6
October 10, 1892	7,000 00	5,000 00	7
October 15. 1892	10,000 00	10,000 00	7
December 9, 1892	5,625 00	5,000 00	7
December 8, 1892	1,050 00	1,000 00	8
May 4, 1892	4,600 00	3,600 00	8
November 11, 1892	900 00	900 00	8
November 12, 1892	1,300 00	1,000 00	8
December 12, 1892	14,000 00	10,000 00	7
December 17, 1892	28,000 00	20,000 00	7
December 15, 1892	795 60	795 60	8
December 12, 1892	21,000 00	15,000 00	7
December 23, 1892	14,000 00	10,000 00	7
December 26, 1892	14,000 00	10,000 00	7
December 24, 1892	14,000 00	10,000 00	7
July 29, 1891	24,000 00	5,000 00	7
December 30, 1892	3,750 00	2,500 00	8
Total	$501,064 63	$348,808 98	....

When organized? 1886.

Under what State laws? Iowa.

Principal place of business? Sioux City, Iowa.

Authorized amount of capital? $500,000.

Amount of capital subscribed? $486,300.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $68,200.

How much, if any, of its capital stock owned by the officers of the company as collateral? None.

Amount of loans due from directors? $3,600.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Six per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Iowa, Minnesota, northeastern Nebraska, southeastern Dakota.

State the number and amount of mortgages with interest six months or more in arrears? 127 loans; $117,000.

Total amount loaned to date? $5,985,500.

Total amount of loans paid? $1,708,350.

Number and amount of loans extended the past two years? None.

Total amount of loans unpaid and outstanding? Guaranteed, $92,400; unguaranteed, none.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? Fifty-one mortgages; $68,150.

Total amount in process of foreclosure? Sixty-three; $77,100.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $202,500.

What are the "other deposits" mentioned in the statements? Sundry persons and corporations.

Total amount of debentures certified? $3,905,664.49.

Less amount on hand and with agents? $27,000.

Total liability for debenture bonds as per statement? $3,905,664.49.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

Trustees for debentures? A to FFF, Metropolitan Trust Co., New York city; A^1, C^1, D^1, E^1, Francis Jeffrey Moncrieff, Robert Strathern and John Patrick Wright, of Edinburgh, Scotland; D^1, Yorkshire Guarantee and Securities Corporation (limited), Huddersfield, Eng.; all others, Corn Exchange National Bank of Sioux City, Iowa.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			SECURED BY PLEDGE OF		AMOUNT OF	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mortgage loans.	Security.	Debentures.
A	6	1886	1896	1891	$47,000 00		$47,000 00	$47,000 00
B	6	1886	1896	1891	46,600 00		46,600 00	46,000 00
C	6	1886	1896	1891	22,150 00		22,150 00	22,000 00
D	6	1886	1896	1891	50,000 00		50,000 00	50,000 00
E	6	1886	1896	1891	38,050 00		38,050 00	38,000 00
F	6	1886	1896	1891	45,000 00		45,000 00	45,000 00
G	6	1886	1896	1891	48,100 00		48,100 00	48,000 00
H	6	1886	1896	1891	34,650 00		34,650 00	34,500 00
I	6	1886	1896	1891	44,100 00		44,100 00	44,000 00
K	6	1886	1897	1892	43,050 00		43,050 00	43,000 00
L	6	1887	1897	1892	46,550 00		46,550 00	46,500 00
M	6	1887	1897	1892	50,050 00		50,050 00	50,000 00
N	6	1887	1897	1892	46,200 00		46,200 00	46,000 00
O	6	1887	1897	1892	47,100 00		47,100 00	47,000 00
P	6	1887	1897	1892	50,000 00		50,000 00	50,000 00
Q	6	1887	1897	1892	48,000 00		48,000 00	48,000 00
R	6	1887	1897	1892	43,050 00		43,050 00	43,000 00
S	6	1887	1897	1892	26,000 00		26,000 00	26,000 00
T	6	1887	1897	1892	32,050 00		32,050 00	32,000 00
U	6	1887	1897	1892	49,000 00		49,000 00	49,000 00
V	6	1887	1897	1892	42,000 00		42,000 00	42,000 00
W	6	1887	1897	1892	38,400 00		38,400 00	38,000 00
X	6	1887	1897	1892	43,200 00		43,200 00	43,000 00
Y	6	1887	1897	1892	47,050 00		47,050 00	47,000 00
Z	6	1887	1897	1892	50,000 00		50,000 00	50,000 00
AA	6	1887	1897	1892	48,600 00		48,600 00	47,500 00
BB	6	1887	1897	1892	49,000 00		49,000 00	49,000 00
CC	6	1887	1897	1892	36,000 00		36,000 00	36,000 00
DD	6	1887	1897	1892	43,000 00		43,000 00	43,000 00
EE	6	1887	1897	1892	48,500 00		48,500 00	48,500 00
FF	6	1888	1898	1893	50,150 00		50,150 00	50,000 00
GG	6	1888	1898	1893	51,200 00		51,200 00	50,000 00
HH	6	1888	1898	1893	50,000 00		50,000 00	50,000 00
II	6	1888	1898	1893	49,100 00		49,100 00	49,000 00
JJ	6	1888	1898	1893	47,050 00		47,050 00	47,000 00
KK	6	1888	1898	1893	49,000 00		49,000 00	49,000 00
LL	6	1888	1898	1893	49,000 00		49,000 00	49,000 00

SCHEDULE "B" — (*Continued*).

SERIES.	Rate per cent.	YEAR WHEN			SECURED BY PLEDGE OF		AMOUNT OF	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mortgage loans.	Security.	Debentures.
MM	6	1889	1899	1894	$39,100 00	......	$39,100 00	$39,000 00
NN	6	1889	1899	1894	48,150 00	......	48,150 00	48,000 00
OO	6	1889	1899	1894	50,100 00	......	50,100 00	50,000 00
PP	6	1889	1899	1894	50,000 00	......	50,000 00	50,000 00
QQ	6	1889	1899	1894	49,500 00	......	49,500 00	49,500 00
RR	6	1889	1899	1894	40,050 00	......	40,050 00	40,000 00
SS	6	1889	1899	1894	50,000 00	......	50,000 00	50,000 00
TT	6	1889	1899	1894	49,500 00	......	49,500 00	49,500 00
UU	6	1889	1899	1894	20,000 00	......	20,000 00	20,000 00
VV	6	1889	1899	1894	42,000 00	......	42,000 00	42,000 00
WW	6	1889	1899	1894	48,150 00	......	48,150 00	48,000 00
XX	6	1889	1899	1894	44,000 00	......	44,000 00	44,000 00
YY	6	1889	1899	1894	40,050 00	......	40,050 00	40,000 00
ZZ	6	1889	1899	1894	13,100 00	......	13,100 00	13,000 00
AAA	6	1890	1900	1895	45,000 00	......	45,000 00	45,000 00
BBB	6	1890	1900	1895	49,000 00	......	49,000 00	49,000 00
CCC	6	1890	1900	1895	48,000 00	......	48,000 00	48,000 00
DDD	6	1890	1900	1895	9,000 00	......	9,000 00	9,000 00
EEE	6	1890	1900	1895	29,500 00	......	29,500 00	29,500 00
FFF	6	1892	1902	1897	50,000 00	......	50,000 00	50,000 00
A-1 £	5	Various dates.			481,800 00	......	481,800 00	480,392 50
B-1 £	5	Various dates.			95,450 00	......	95,450 00	82,207 50
C-1 £	5	Various dates.			484,950 00	......	484,950 00	483,905 68
D-1 £	5	Various dates.			136,250 00	......	136,250 00	136,250 00
E-1 £	5	Various dates.			135,450 00	......	135,450 00	86,408 81
OD	7	Various dates.			......	$6,177 81	269,914 54	5,000 00
OF	7	Various dates.			......	7,200 00		6,000 00
OH	7	Various dates.			......	24,474 80		20,000 00
OI	7	Various dates.			......	57,844 14		46,500 00
OK	7	Various dates.			......	15,236 33		10,000 00
OL	7	Various dates.			......	42,654 15		25,000 00
OM	7	Various dates.			......	60,029 64		44,500 00
ON	7	Various dates.			......	13,304 00		10,000 00
OO	7	Various dates.			......	42,993 67		13,000 00
Totals							$4,065,964 54	$3,905,664 49

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Iowa Investment Co. stock	$88,700 00	$88,700 00	$88,700 00
Corn Exchange National Bank stock	39,500 00	39,500 00	41,475 00
Federal Investment Co. stock	1,000 00	1,000 00	1,000 00
Granite City Bank stock	2,500 00	2,500 00	2,500 00
Mercantile Debenture and Agency Corporation	2,020 00	2,020 00	2,020 00
Sioux City Street Railway Co. bonds	104,325 00	107,000 00	107,000 00
Duluth Transfer Railway Co. bonds	173,700 00	193,000 00	193,000 00
Cascade Milling Co. bonds	23,750 00	25,000 00	25,000 00
Fidelity Loan and Trust Co. debenture bonds	27,000 00	27,000 00	27,000 00
Lincoln Street Railway Co. com. stock	30,000 00	327,500 00	30,000 00
Total	$492,495 00	$813,220 00	$517,695 00

OFFICERS AND DIRECTORS.

JOSEPH SAMPSON	*President.*
C. BERAN OLDFIELD	*Vice-President.*
W. G. CLAPP	*Treasurer.*
J. C. FRENCH	*Secretary.*
C. C. CUYLER	*Director.*

STATE OF IOWA,
COUNTY OF WOODBURY. } *ss.:*

I, Joseph Sampson, president of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

JOSEPH SAMPSON.

Subscribed and sworn to before me,
this 21st day of January, 1893. }

EDWARD C. CURRIER,
Notary Public.

THE FORT WORTH AND UTICA TRUST COMPANY.

FORT WORTH, TEXAS. ORGANIZED JULY, 1891.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$15,161 37
Loans on collateral security (schedule "C")	10,738 72
Loans on personal security	23,166 50
Stocks and bonds (see schedule "A")	1,700 00
Other real estate	1,239 32
Foreclosure account	155 64

Furniture and fixtures	$932 30
Due from sundry persons	100 00
Due from banks and bankers	2,317 86
Cash	2,504 48
Total	$58,016 19

LIABILITIES.

Capital stock paid in	$54,702 00
Undivided profits	238 59
Dividends payable January 2, 1893	1,915 26
Certificates of deposit bearing interest	700 00
Other deposits	460 34
Total	$58,016 19

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.
55	January 22, 1892	$75 00	$43 75
116	April 23, 1892	1,200 00	240 00
188	November 9, 1892	1,000 00	500 00
194	November 15, 1892	1,000 00	500 00
199	July 18, 1892	8,000 00	300 00
200½	October 21, 1892	1,000 00	200 00
204	July 25, 1892	750 00	500 00
233	August 29, 1892	400 00	40 00
248	September 6, 1892	4,000 00	700 00
265	September 25, 1892	600 00	258 50
274	October 8, 1892	1,800 00	575 00
295	November 12, 1892	1,300 00	533 32
302	November 12, 1892	4,000 00	2,000 00
321	December 15, 1892	3,000 00	2,750 00
324	December 19, 1892	650 00	500 00
332	December 21, 1892	120 00	100 00
339	December 13, 1892	800 00	389 65
341	December 23, 1892	2,000 00	250 00
353	December 27, 1892	250 00	200 00
354	December 28, 1892	195 00	58 50
360	December 31, 1892	250 00	100 00
Total		$32,390 00	$10,738 72

When organized? July, 1891.
Under what State laws? Texas.
Principal place of business? Fort Worth, Texas, and Utica, New York.
Authorized amount of capital? $250,000.
Amount of capital subscribed? $78,800.

What is the personal liability of stockholders? None, except amount due on stock.

How much of its capital stock is owned by the officers of the company? $40,300.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None

Rates of dividends for past five years? Dividend of three per cent January 2, 1893.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Fort Worth, Tarrant county, Texas; Wilbarger county, Texas; Rockwell county, and a few loans in Kansas, Nebraska and Dakota purchased.

State the number and amount of mortgages with interest six months or more in arrears? Three; $1,815.

Total amount loaned to date? $167,837.64.

Total amount of loans paid? $118,771.05.

Number and amount of loans extended the past two years? No record kept.

Total amount of loans unpaid and outstanding? Unguaranteed, $49,066.59; "amount on hand."

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? Three; $1,350.

Total amount in process of foreclosure? Two; $1,240.

Is the company subject to examination by local State officers? Yes.

What officer? Commissioner of Insurance and Statistics.

Amount of securities sold in New York State for the past year? None.

What are the "other deposits" mentioned in the statements? Sundry individual accounts.

Total amount of debentures certified? None.

Less amount on hand and with agents? None issued.

Total liability for debenture bonds as per statement? None issued.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? None sold.

Trustees for debentures? None.

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.
Watertown Heating, Power and Light Co., Dak.	$1,000 00	$1,000 00
Union Banking Co., Aberdeen, Dakota	500 00	500 00
Western Farm Mortgage Co., Aberdeen, Dakota.	200 00	200 00
Total....................................	$1,700 00	$1,700 00

OFFICERS AND DIRECTORS.

H. J. Cookinham	*President.*
B. B. Paddock	*Vice-President.*
Geo. H. Potter	*Second Vice-President.*
Frank H. Clark	*Secretary and Treasurer.*
Crawford Getman	*Director.*
John R. Edwards	*Director.*
Selden H. Talcott	*Director.*
W. A. Paddock	*Director.*
F. T. Gorton	*Director.*
T. James Owens	*Director.*
T. B. Cloyes	*Director.*
Frank F. Potter	*Director.*
D. V. Fuller	*Director.*

STATE OF NEW YORK, } *ss.* :
County of Oneida. }

I, Frank H. Clark, secretary and treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

FRANK H. CLARK.

Subscribed and sworn to before me, }
this 30th day of January, 1893. }

W. P. Carpenter,
Notary Public, Oneida county, N. Y.

THE GEORGIA LOAN AND TRUST COMPANY.

Americus, Georgia. Organized November 30, 1883.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$79,931 18
Loans on personal security	6,428 52
Tax sale certificates	180 55
Other real estate	11,732 33
Foreclosure account	2,958 95
Current expenses	4,358 08
Past-due interest remitted for, but not paid to us	41,185 37
Due from banks and bankers	37,959 76
Due on uncompleted loans	12,447 29
Cash	2,312 80
Other assets, viz.: Discount interest	477 98
Total	$199,972 81

LIABILITIES.	January 1. 1893.
Capital stock paid in	$121.300 00
Undivided profits	10.323 91
Bills payable	15,000 00
Interest paid in advance by borrowers	13.295 94
Loans paid, but not remitted for	6.041 85
Due borrowers on loans made	3.673 80
Certificates of deposit bearing interest	24.138 15
Other deposits	1,182 50
Due to branch offices and agents	1.988 20
Due to banks and bankers	3,028 46
Total	$199.972 81

When organized? November 30, 1883.

Under what State laws? Georgia.

Principal place of business? Americus, Sumter county. Ga.

Authorized amount of capital? $1,000,000.

Amount of capital subscribed? $121.300.

What is the personal liability of stockholders? Unpaid subscriptions.

How much of its capital stock is owned by the officers of the company? $5.500.

How much. if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? 1888, twenty-four and four-tenths per cent: 1889, eight per cent; 1890, eight per cent: 1891, eight per cent; 1892, eight per cent — fifty-six and four-tenths.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Our rule.

State the sections of country in which loans are made, giving the principal counties? In selected counties in all sections except southeast Georgia. Principal counties — Sumter, Bibb, Fulton and Floyd. Principal cities — Americus, Atlanta, Athens, Macon, Augusta, Rome and Chattanooga, Tenn.

State the number and amount of mortgages with interest six months or more in arrears? 123; $148,430.

Total amount loaned to date? $3,520,474.

Total amount of loans paid? $716,775.

Number and amount of loans extended the past two years? 348; $231,390.

Total amount of loans unpaid and outstanding? Guaranteed, $40.125; unguaranteed, $2,763.574.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? $41,495.37.

Number and amount of mortgages foreclosed in the past year? Eighteen $12,950.

Total amount in process of foreclosure? $65,350.

Is the company subject to examination by local State officers? Yes.

What officer? State bank examiner.

Amount of securities sold in New York State for the past year? $99,650.

What are the "other deposits" mentioned in the statements? Sums to credit sundry persons.

Total amount of debentures certified? None.

Less amount on hand and with agents? None.

Total liability for debenture bonds as per statement? None.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Not over $5,000 on guaranteed mortgages; likely less.

Trustees for debentures (if more than one class, state series certified to by each)? None.

OFFICERS AND DIRECTORS.

E. BURR, JR	*President.*
H. M. KNAPP	*Vice-President.*
O. A. COLEMAN	*Treasurer and General Manager.*
J. E. BIVINS	*Real Estate Officer.*
S. S. SHIPPS	*Secretary.*
B. P. HOLLIS	*Attorney.*
S. C. TRUBER	*Director.*
ALEX. HAWLEY	*Director.*
BENJAMIN BETTS	*Director.*

STATE OF GEORGIA, } ss.:
COUNTY OF SUMTER. }

I, O. A. Coleman, treasurer and general manager of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

O. A. COLEMAN.

Subscribed and sworn to before me, }
this 26th day of January, 1893. }

T. N. HAWKES,
Notary Public, Sumter county, Georgia.

THE HAMILTON LOAN AND TRUST COMPANY.

OMAHA, NEBRASKA. ORGANIZED FEBRUARY 1, 1887.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$270,295 00
Loans secured by second liens on real estate	16,047 23
Tax sale certificates	11,843 25
Stocks and bonds (see schedule "A")	110,000 00
Other real estate	159,878 38

Foreclosure account	$1,611 52
Premiums paid	2,020 00
Past-due interest remitted for, but not paid to us	55,122 98
Past-due loans remitted for, but not paid to us	20,250 00
Due from sundry persons	6,982 16
Due from banks and bankers	12,189 29
Cash in New York office	120 62
Other assets. viz.:	
Accrued interest	7,431 36
Insurance premiums advanced to borrowers	1,354 00
Commission mortgages not due, face value, $7,186.69; less ten per cent per annum for unexpired time, $1,212.67	5,974 02
Total	$681,119 81

LIABILITIES.

Capital stock paid in	$359,600 00
Surplus fund	25,000 00
Undivided profits	10,731 93
Debenture bonds outstanding (schedule "B")	254,914 25
Interest paid in advance by borrowers	2,317 56
Loans paid, but not remitted for	12,055 99
Due borrowers on loans made	9,081 40
Other liabilities. viz.:	
Interest due investors. coupons not presented	1.605 78
Interest paid by borrowers on account	5,812 90
Total	$681,119 81

When organized? February 1, 1887.

Under what State laws? Nebraska.

Principal place of business? Omaha, Douglas county, Nebraska.

Authorized amount of capital? $359,600.

Amount of capital subscribed? $359,600.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers and directors of the company? $103,500.

Rates of dividends for past five years? October 18, 1888, four per cent; August 1, 1889, six per cent; two years to August 1, 1891, eight per cent; no dividend since.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Cities of Denver, Omaha and Tacoma; eastern counties of Nebraska.

State the number and amount of mortgages with interest six months or more in arrears? 393; $336,710.

Total amount loaned to date? $2,118,752.50.

Total amount of loans paid? $312,997.50.

Number and amount of loans extended the past two years? Fourteen loans; $7,600.

Total amount of loans unpaid and outstanding? Guaranteed, $1,454,210; unguaranteed, $61,000.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? Thirty mortgages; $30,000.

Total amount in process of foreclosure? $40,000.

Is the company subject to examination by local State officers? No law in Nebraska requiring it.

Amount of securities sold in New York State for the past year? $22,300.

Total amount of debentures certified? $279,500.

Less amount on hand and with agents? $24,585.75.

Total liability for debenture bonds as per statement? $254,914.25.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

Trustees for debentures? Union Trust Company, of New York, for series 1, 2, 3, 4, 6, 7; W. L. Clark, of New York city, for series 5.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			SECURED BY PLEDGE OF		AMOUNT OF	
		Dated.	Due.	Redeemable.	First mortgage loans.	Real estate.	Security.	Debentures.
1	6	January 1, 1890	January 1, 1897	January 1, 1895	$50,060 00	....	$50,060 00	$50,000 00
2	6	July 1, 1890	July 1, 1897	July 1, 1895	50,160 00	....	50,160 00	50,000 00
3	7	July 1, 1890	July 1, 1894	July 1, 1893	50,000 00	....	50,000 00	50,000 00
4	5½	January 1, 1891	January 1, 1896	January 1, 1895	50,230 00	....	50,230 00	*50,000 00
5	7	May 1, 1891	May 1, 1896	May 1, 1895	....	$32,135 61	32,135 61	20,000 00
6	6	July 1, 1891	July 1, 1898	July 1, 1896	44,570 00	....	44,570 00	44,500 00
7	5½	July 1, 1892	July 1, 1897	July 1, 1896	20,000 00	....	20,000 00	†15,000 00
Totals	......	....	....	....	$265,020 00	$32,135 61	$297,155 61	$279,500 00

* £10,000 † £3,000

SCHELULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Stock in the Denver Trust and Safe Deposit Company, 1,100 shares.....	$112,020	$110,000	No quotation.

OFFICERS AND DIRECTORS.

M. E. WORTHEN	*President.*
F. W. POPPLE	*First Vice-President.*
W. F. R. MILLS	*Second Vice-President.*
W. P. ALDRICH	*Treasurer.*
L. F. SPENCER	*Secretary.*
CHAS. H. WHEELER	*Director.*
WM. F. HAVEMEYER	*Director.*
WM. ALMON WOLFF	*Director.*
L. C. NASH	*Director.*
PETER REID	*Director.*
JOHN N. BEACH	*Director.*
THOS. SCATTERGOOD	*Director.*
J. TILLSON GRANGER	*Director.*
R. E. ANDERSON	*Director.*
JNO. P. HUGGINS	*Director.*
GEO. B. WATERHOUSE	*Director.*

STATE OF NEW YORK, } *ss.:*
COUNTY OF NEW YORK. }

I, L. F. Spencer, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

L. F. SPENCER.

Subscribed and sworn to before me, }
this 25th day of January, 1893. }

THOMAS J. FALLS,
Notary Public, New York county.

THE INGERSOLL INVESTMENT COMPANY.

DENVER, COLORADO. ORGANIZED DECEMBER 31, 1890.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$7,312 50
Loans on collateral security (schedule "C.")	1,970 82
Loans on personal security	2,569 49
Stocks and bonds (see schedule "A")	111,926 19

Other real estate	$173,865 79
Furniture and fixtures	2,000 00
Past-due interest remitted for, but not paid to us	192 92
Due from branch offices and agents	6,460 70
Due from sundry persons	6,638 64
Due on uncompleted loans	81 61
Cash	3,550 66
Other assets, viz.:	
Accrued interest on bills received	307 61
Team and farm accounts	1,770 00
Sewer warrant (city of Denver)	51 90
Joint and capitalist accounts	6,500 68
Total	$325,199 51

LIABILITIES.

Capital stock, paid in	$147,600 00
Surplus fund	73,800 00
Undivided profits	3,925 30
Bills payable	85,135 00
Dividends unpaid	50 00
Deposits awaiting investments	11,231 11
Other liabilities, viz.:	
Due to sundry persons	2,102 72
E. D. Ingersoll, salary account	1,355 38
Total	$325,199 51

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
			per ct.
October 3, 1892	$1,000 00	$700 00	10
December 31, 1891	1,500 00	1,100 00	6
December 31, 1892	209 58	170 82	6
Total	$2,709 58	$1,970 82	.....

When organized? December 31, 1890.

Under what State laws? Colorado.

Principal place of business? Denver, Col.

Authorized amount of capital? $200,000.

Amount of capital subscribed? $147,600.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? Officers, $65,200; one director, $22,200—$87,400.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? Ten shares.

Amount of loans due from directors? $1,270.82.

Total amount of its capital stock held by the company as collateral? Ten shares.

Rates of dividends for past five years? Five per cent cash July, 1891, and sixteen two-thirds stock on capital and surplus June 28, 1892.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Arapahoe and Jefferson counties; within radius of ten miles from center of Denver.

State the number and amount of mortgages with interest six months or more in arrears? One; $800.

Total amount loaned to date? $87,470.16.

Total amount of loans paid? $8,345.83.

Number and amount of loans extended the past two years? Five; $1,562.50.

Total amount of loans unpaid and outstanding? Guaranteed, $8,333; unguaranteed, $70,791.33.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? None.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $13,650.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.
Colorado Ice and Storage Co., 221½ shares	$18.827 50	$22,150 00
Boston Land and Security Co., 5 shares	530 00	500 00
University Ranch Co., 427 shares	89,490 66	42.700 00
East Denver B. and L. Ass'n sub. stock, 300 shares.	1.875 00	....
E. Denver B. & L. Ass'n "full paid" stk., 2½ shares	1,000 00	1,000 00
Water rights (or stock) Northern Colorado Irrigation Co., 17 shares	203 03	850 00
Total	$111.926 19	$67.200 00

OFFICERS AND DIRECTORS.

Edwin D. Ingersoll	*President.*
Charles E. Ingersoll	*Vice-President.*
Frank B. Spalding	*Secretary and Treasurer.*
Hiram D. Ingersoll	*Counsel.*
George W. Wells	*Director.*

STATE OF COLORADO, }
COUNTY OF ARAPAHOE. } *ss.:*

I, Frank B. Spalding, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

FRANK B. SPALDING.
Secretary.

Subscribed and sworn to before me, }
this 27th day of January, 1893. }

C. W. WHEELOCK,
Notary Public.

THE INTER-STATE MORTGAGE TRUST COMPANY.

PARSONS, KANSAS. ORGANIZED JANUARY 16, 1888.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$1,425 00
Loans secured by second liens on real estate	11,704 34
Loans on collateral security (schedule "C") }	42,839 37
Loans on personal security }	
Tax sale certificates and deeds	956 26
Other real estate	21,577 48
Foreclosure account	1,558 43
Premiums paid	9,000 00
Furniture and fixtures	1,367 16
Current expenses	7,916 91
Past-due interest remitted for, but not paid to us	759 42
Due from eastern offices	20,490 99
Due from sundry persons	3,372 15
Due from banks and bankers	2,768 98
Cash	323 97
Other assets, viz.:	
Grain and seed	609 77
Records	220 00
Vault	380 06
Treasury stock	5,500 00
Total	$132,770 29

LIABILITIES.	
Capital stock paid in	$100,000 00
Surplus fund	2,427 25
Undivided profits	9,334 99
Dividends unpaid	15 00

Interest paid in advance by borrowers	$1.260 51
Loans paid, but not remitted for	3.750 00
Due borrowers on loans made	9.483 90
Other deposits	1.705 73
Due to branch offices and agents	79 80
Other liabilities, viz.:	
Due insurance companies	239 03
Taxes collected	4.474 08
Total	$132.770 29

When organized? January 16, 1888.

Under what State laws? Kansas.

Principal place of business? Parsons, Kan., and Greenfield, Mass.

Authorized amount of capital? $100,000.

Amount of capital subscribed? $100,000.

What is the personal liability of stockholders? Double amount of stock owned.

How much of its capital stock is owned by the officers of the company? $9,800.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Average six per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower. Yes.

State the sections of country in which loans are made, giving the principal counties? Southeastern Kansas; Labette, Neosho, Crawford, Montgomery, Cherokee, Bourbon, Allen and Wilson counties.

State the number and amount of mortgages with interest six months or more in arrears? Two; $750.

Total amount loaned to date? $731,515, about.

Total amount of loans paid? $65,000, about.

Number and amount of loans extended the past two years? Two; $1,450.

Total amount of loans unpaid and outstanding? Guaranteed, $474,065; unguaranteed, $257,450.

Do you advance interest on unguaranteed loans? Yes, if good.

How much have you so advanced? Nothing.

Number and amount of mortgages foreclosed in the past year? Three; $1,800.

Total amount in process of foreclosure? $1,558.43.

Is the company subject to examination by local State officers? No.

What are the "other deposits" mentioned in the statements? Mostly rents collected.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Not a cent.

OFFICERS AND DIRECTORS.

JEROME R. BROWN	*President.*
F. M. THOMPSON	*Vice-President.*
W. N. SNOW	*Cashier.*
I. F. ADAMS.	*Secretary and Treasurer.*
GEORGE E. ROGERS	*Director.*
L. J. GUNN	*Director.*
E. E. LYMAN	*Director.*
C. T. WALCOTT	*Director.*
JOHN SHELDOR	*Director.*
E. H. EDWARDS	*Director.*
J. J. PIERSON	*Director.*
W. C. HOLMES	*Director.*
A. J. CARY	*Director.*

STATE OF KANSAS, } *ss.* :
COUNTY OF LABETTE. }

I, I. F. Adams, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

I. F. ADAMS.

Subscribed and sworn to before me, }
this 31st day of January, 1893. }

C. A. WILKIN,
Notary Public.
My commission expires September 12, 1894.

IOWA LOAN AND TRUST COMPANY.

DES MOINES, IOWA. ORGANIZED 1872.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$4,232,728 18
Loans on collateral security (schedule "C")	41,925 35
Loans on personal security	11.694 37
Tax sale certificates	19,077 00
Stocks and bonds (see schedule "A")	65.000 81
Office building	135.000 00
Other real estate	152,403 88
Foreclosure account	80.416 04
Due from sundry persons	1,185 15
Due from banks and bankers	99,498 63
Cash	4,020 26
Other assets, viz.:	
Sheriff's sale certificates	16.175 47
Land contracts	48,622 48
Mortgage interest due	24,952 40
Total	$4.932.700 02

LIABILITIES.	January 1, 1893
Capital stock paid in	$500,000 00
Surplus fund	100,000 00
Undivided profits	165,085 20
Debenture bonds outstanding (schedule "B")	3,883,200 00
Dividends unpaid	20,000 00
Certificates of deposit bearing interest	229,755 56
Other deposits	15,463 69
Other liabilities, viz.:	
Treasurer's checks outstanding	9,556 07
Debenture coupons due, but not presented for payment	9,639 50
Total	$4,932,700 02

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.
2877	December 21, 1892	$200 00	$200 00
2876	December 21, 1892	2,000 00	1,300 00
2874	December 21, 1892	3,600 00	2,000 00
2872	December 21, 1892	1,000 00	1,000 00
2871	December 21, 1892	1,000 00	295 00
2870	December 21, 1892	1,600 00	1,400 00
2869	December 19, 1892	700 00	525 00
2867	December 12, 1892	1,100 00	825 00
2866	December 13, 1892	2,000 00	600 00
2862	December 12, 1892	3,700 00	800 00
2859	December 6, 1892	400 00	300 00
2857	November 23, 1892	1,000 00	750 00
2853	November 11, 1892	1,000 00	750 00
2849	November 5, 1892	1,700 00	657 84
2844	November 4, 1892	1,200 00	400 00
2842	November 2, 1892	2,150 00	1,612 50
2841	October 31, 1892	1,900 00	1,425 00
2839	October 28, 1892	2,200 00	600 00
2838	October 19, 1892	1,950 00	1,462 50
2836	October 6, 1892	2,875 00	2,156 25
2834	September 29, 1892	750 00	630 00
2828	September 11, 1892	400 00	400 00
2806	July 2, 1892	13,750 00	4,000 00
2807	June 23, 1892	4,094 54	923 43
2798	June 7, 1892	800 00	400 00
2784	November 2, 1891	45,000 00	4,045 56
2768	March 10, 1892	600 00	335 00
2767	March 9, 1892	1,500 00	500 00
2755	February 10, 1892	200 00	200 00
2751	January 30, 1892	7,000 00	2,000 00
2669	June 13, 1889	6,720 00	4,000 00
2659	November 12, 1883	5,050 00	900 00
2879	December 24, 1892	5,600 00	4,532 27
Total		$124,739 54	$41,925 35

When organized? 1872.

Under what State laws? Iowa.

Principal place of business? Des Moines, Iowa.

Authorized amount of capital? $500,000.

Amount of capital subscribed? $500.000.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $73.200.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? $5.000.

Amount of loans due from directors? $10.682.27 other than real estate mortgages.

Total amount of its capital stock held by the company as collateral? $9,800.

Rates of dividends for past five years? Four per cent semi-annually.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Central and western Iowa; eastern and central Nebraska and South Dakota, south of forty-fourth parallel.

State the number and amount of mortgages with interest six months or more in arrears? Ninety-eight: $120,518.15 not in foreclosure.

Total amount loaned to date? $17.485,280.08.

Total amount of loans paid? $13,136.782.18.

Total amount of loans unpaid and outstanding? Guaranteed, none; unguaranteed, none.

Number and amount of mortgages foreclosed in the past year? Forty-four; $38,750.

Total amount in process of foreclosure? $62.150.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $168,200.

What are the "other deposits" mentioned in the statements? Deposits subject to check and sundry accounts.

Total amount of debentures certified? $3,905,000.

Less amount on hand and with agents? $21,800.

Total liability for debenture bonds as per statement? $3.883,200.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? None of the securities in hands of our trustees are in foreclosure and we have no reason to think that there will be any loss whatever.

Trustees for debentures? Ira Cook, G. M. Hippee and C. A. Dudley.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			Secured by pledge of first mortgage loans.	Amount of debentures.
		Dated.	Due.	Redeemable.		
H	6	1881	1891	1884	$465 00	$400 00
Q	6	1883	1893	1888	7,950 00	7,000 00
S	6	1883	1893	1888	5.550 00	5.200 00
T	6	1883	1893	1888	2,700 00	2,500 00
U	6	1883	1893	1889	8,600 00	8,000 00
V	6	1883	1893	1889	104,235 00	98,500 00
W	6	1884	1894	1889	98,890 00	93.800 00
X	6	1884	1894	1889	104,130 00	98.300 00
25	6	1884	1894	1890	105,000 00	100,000 00
26	6	1885	1895	1990	105,135 00	99,800 00
27	6	1885	1895	1890	105.446 00	100.000 00
28	6	1885	1895	1890	104,250 00	98.500 00
29	6	1885	1895	1890	105,150 00	98.500 00
30	6	1885	1895	1888	103.104 00	97,000 00
31	6	1885	1895	1889	106,508 00	99,500 00
32	6	1885	1895	1888	105.700 00	100.000 00
33	6	1885	1895	1890	65,253 00	60.000 00
34	6	1885	1895	1890	105.790 73	100.000 00
35	6	1886	1896	1891	25,200 00	24,000 00
36	6	1887	1897	1894	106,347 66	100.000 00
37	6	1887	1897	1892	106.165 00	100,000 00
38	6	1888	1898	1893	105,060 00	100.000 00
39	6	1888	1898	1893	101,650 00	96,500 00
40	6	1888	1898	1893	105,625 00	100.000 00
41	6	1888	1898	1893	105,845 00	100,000 00
42	6	1889	1899	1894	105,373 00	100.000 00
43	6	1889	1899	1894	105.474 00	100,000 00
44	6	1889	1809	1894	105,699 00	100,000 00
45	5½	1889	1899	1896	100.596 00	94,500 00
46	5½	1890	1900	1895	100,790 00	95,000 00
47	5½	1890	1900	1895	105,796 00	100,000 00
48	5½	1890	1900	1895	105,523 95	99,400 00
49	5½	1891	1901	1896	77,250 00	70,900 00
50	5½	1891	1901	1896	55,650 00	52,000 00
51	5½	1892	1902	1897	105,605 15	100,000 00
52	5½	1892	1902	1897	106.500 00	100,000 00
53	5½	1892	1902	1897	113,440 00	100,000 00
54	5½	1892	1902	1897	105,339 00	100,000 00
55	5½	1892	1902	1897	72,700 00	69,200 00
56	5½	1892	1902	1897	2,100 00	2.000 00
1	5	1886	1901	1896	105,983 00	100,000 00
2	5	1886	1901	1896	105,816 00	100,000 00
3	5	1886	1901	1895	106,130 00	100,000 00
4	5	1886	1901	1896	106,749 15	100,000 00
5	5	1886	1901	1896	105.242 50	100.000 00
6	5	1886	1901	1896	104,638 00	99,000 00
7	5	1886	1901	1896	74,605 00	70,000 00
8	5	1887	1902	1897	44,875 00	41,000 00
A	5	1887	1902	1897	20,025 00	19,000 00
B	5	1892	1907	1902	525 00	500 00
9	5	1892	1907	1902	5,250 00	5,000 00
Totals					$4,147,424 14	$3,905.000 00

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Municipal bonds of Atlantic, Iowa.....	$13,500 00	$13,500 00	$13,500 00
Municipal bonds of Capital Park, Iowa.	900 00	900 00	900 00
Iowa school district bonds............	34,450 00	34,450 00	34,450 00
Assessment certificate bonds, city of Des Moines, Iowa	703 16	703 16	703 16
Warrants, city of Des Moines, Iowa....	2,156 39	2,156 39	2,156 39
Warrants, Audubon county, Iowa.....	10,013 48	10,013 48	10,013 48
Warrants, school districts, Iowa	1,117 78	1,117 78	1,117 78
Forty-eight (48) shares Western White Bronze Co., of Des Moines, Iowa.....	2,160 00	4,800 00	2,400 00
Total	$65,000 81	$67,640 81	$65,240 81

OFFICERS AND DIRECTORS.

JOHN M. OWENS..	*President.*
JAMES CALLAHAN..	*Vice-President.*
W. E. COFFIN	*Treasurer.*
D. F. WITTER	*Secretary.*
HIRAM DEWING	*Director.*
C. A. DUDLEY..	*Director.*
J. G. ROUNDS	*Director.*
IRA COOK	*Director.*
G. M. HIPPEE	*Director.*

STATE OF IOWA, } *ss.:*
COUNTY OF POLK. }

I, W. E. Coffin, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

W. E. COFFIN.

Subscribed and sworn to before me, }
this 14th day of January, 1893. }

E. O. BURT,
Notary Public in and for Polk county, Iowa.

THE McKINLEY-LANNING LOAN AND TRUST COMPANY.

Philadelphia, Pennsylvania. Organized December 1, 1888.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$970,287 38
Commission notes secured by second liens on real estate	154,505 55
Earned commission on debenture loans	25,040 50
Tax sale certificates	5,791 44
Stocks and bonds (see schedule "A")	80,000 00
Other real estate	79,974 81
Foreclosure account, and costs paid	43,949 90
Furniture and fixtures	2,013 06
Current expenses	3,632 27
Past-due interest remitted for, but not paid to us	74,139 72
Due from branch offices and agents	23,039 12
Due from sundry persons	6,364 29
Due from banks and bankers	19,199 50
Other assets, viz.:	
Debentures on hand for sale	45,000 00
Land sale contracts	5,226 00
Interest accrued (not due) on loans and coupons	30,000 00
Com. notes collateral to guaranty fund	46,321 22
Interest due and not paid to us	36,802 00
Total	$1,651,286 76

LIABILITIES.	
Capital stock paid in	$500,000 00
Surplus fund	11,314 40
Guaranty fund, notes and cash	50,084 89
Undivided profits	32,647 81
Debenture bonds outstanding (schedule "B")	884,220 00
Loans paid, but not remitted for	27,600 00
Deposits awaiting investment	72,973 00
Other deposits, personal accounts	9,635 74
Other liabilities, viz.:	
Interest from loans collateral to debentures in excess of interest paid on debentures	20,170 86
Funds awaiting papers	16,769 92
Funds awaiting coupons	1,956 14
Incumbrances on real estate	18,900 00
Interest accrued but not due on debentures	5,014 00
Total	$1,651,286 76

When organized? December 1, 1888.

Under what State laws? Pennsylvania.

Principal place of business? Philadelphia, Pennsylvania.

Authorized amount of capital? $500,000.

Amount of capital subscribed? $500,000.

What is the personal liability of stockholders? $500.000.

How much of its capital stock is owned by the officers of the company? $209,500.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? $80,000.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? $80,000?

Rates of dividends for past five years? Seven per cent, 1889; six per cent, 1890; three per cent, 1891; six per cent, 1892.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Adams, Hall, Hamilton, Merrick, Howard, Buffalo, Phelps, Kearney, Clay, Fillmore, Nuckolls, Webster, Franklin, Nebraska.

State the number and amount of mortgages with interest six months or more in arrears? 1,321; $644,470.

Total amount loaned to date? $7,710,605.

Total amount of loans paid? $3,616,380.

Number and amount of loans extended the past two years? 173; $70,300.

Total amount of loans unpaid and outstanding? Guaranteed, $202,575; unguaranteed, $3,891,650.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? $70,599.22.

Number and amount of mortgages foreclosed in the past year? Seventeen loans; $9,800.

Total amount in process of foreclosure? $42,636.96.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $113,475.

What are the "other deposits" mentioned in the statements? Personal accounts.

Total amount of debentures certified? $884,220.

Less amount on hand and with agents? $45,000.

Total liability for debenture bonds as per statement? $839,220.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Not one cent.

Trustees for debentures? A to J inclusive, The Girard Life and Trust Co.; one, C. G. Lane, cashier Exchange National Bank, Hastings, Nebraska.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			SECURED BY PLEDGE OF		AMOUNT OF	
		Dated.	Due.	Redeemable.	First mortgage loans.	Commission notes on second mortgage.	Security.	Debentures.
A	6	April 1, 1889	April 1, 1899	April 1, 1894	$98,832 50	....	$98,832 50	$98,500 00
B	6	April 1, 1889	April 1, 1899	April 1, 1894	100,040 00	....	100,040 00	47,100 00
B	6	April 1, 1889	April 1, 1894	April 1, 1894				52,900 00
C	6	July 1, 1889	July 1, 1899	July 1, 1894	100,170 00	....	100,170 00	98,900 00
C	6	July 1, 1889	July 1, 1894	July 1, 1894				1,100 00
D	6	July 1, 1889	July 1, 1899	July 1, 1894	88,750 00	....	88,750 00	81,800 00
D	6	July 1, 1889	July 1, 1895	July 1, 1894				1,850 00
D	6	July 1, 1889	July 1, 1894	July 1, 1894				5.000 00
E	6	January 1, 1890	January 1, 1900	January 1, 1895	97,690 00	....	97,690 00	92,325 00
F	6	January 1, 1890	January 1, 1900	January 1, 1895	95,125 00	....	95,125 00	65,000 00
F	6	January 1. 1892	January 1, 1902	January 1, 1897				29,595 00
G	6	April 1. 1890	April 1. 1900	January 1, 1895	93,235 00	....	93,235 00	55.750 00
G	6	October 1, 1891	October 1, 1901	January 1, 1896				36,500 00
H	6	April 1, 1890	April 1, 1900	April 1, 1895	16,203 00	....	16,203 00	13,200 00
I	6	July 1, 1891	July 1, 1901	July 1, 1896	100,105 00	....	100,105 00	54,900 00
I	6	January 1, 1892	January 1, 1902	January 1, 1897				28,800 00
I	6	July 1, 1892	July 1, 1902	July 1, 1897				16,300 00
J	6	September 1, 1892	September 1, 1902	September 1, 1897	22,800 00	....	22,800 00	22,750 00
One	6½	August 1, 1889	August 1, 1894	August 1, 1891	....	$122,925 00	122,925 00	57,500 00
One	6½	August 1, 1889	August 1, 1895	August 1, 1891	....			9,150 00
One	6½	August 1, 1889	August 1. 1896	August 1, 1891	....			8,500 00
One	6½	August 1, 1889	August 1, 1899	August 1, 1893	....			1,800 00
One	6½	August 1, 1892	August 1, 1902	August 1, 1897	....			5,000 00
Totals	....	....	....	....	$812,950 50	$122,925 00	$935,875 50	$884,220 00

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.	Market value.
Eight hundred shares McK.-L. L. & T. Co. stock, held under agreement dated January 26, 1893	$80,000 00	$80,000 00	$80,000 00

OFFICERS AND DIRECTORS.

W. H. Lanning.........................	*President.*
T. W. Marshall.........................	*First Vice-President.*
E. L. Stevens	*Second Vice-President.*
Wm. P. Huston	*Secretary.*
W. H. Carnahan.........................	*Assistant Secretary and Treasurer.*
N. G. Utley	*Director.*
F. J. Darlington	*Director.*
Jos. T. Murtagh.........................	*Director.*
Wm. P. Marshall	*Director.*
John G. Gheen	*Director.*
Wm. T. Elliott	*Director.*

STATE OF NEBRASKA, } *ss.:*
County of Adams. }

I, W. H. Carnahan, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

W. H. CARNAHAN.

Subscribed and sworn to before me, }
this 15th day of February, 1893. }

J. M. Ferguson,
Notary Public.

THE MIDDLESEX BANKING COMPANY.

Middletown, Conn. Organized November 5, 1875.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate........................	$7,171,214 31
Loans secured by second liens on real estate	3,553 36
Loans on personal security.....................	2,500 00
Stocks and bonds (see schedule "A")	47,530 00
Office building	18,434 96
Other real estate and expenses	8,183 63

Past-due interest remitted for, but not paid to us	$7,475 94
Past-due loans remitted for, but not paid to us	34,939 25
Due from branch offices and agents	21,450 27
Due from banks and bankers, on deposit	209,696 62
Cash in drawer	1,254 47
Other assets, viz.:	
Topographical records	14,000 00
Past-due interest on our loans	74,885 16
Interest accrued on loans sold	4,096 08
Accrued interest on our loans	129,057 07
Total	$7,748,271 12

LIABILITIES.

Capital stock paid in	$600,000 00
Surplus fund	100,000 00
Undivided profits	66,444 57
Debenture bonds outstanding (schedule "B")	6,708,149 17
Loans paid, but not remitted for	21,475 00
Certificates of deposit bearing interest	3,200 00
Deposits awaiting investment	45,075 00
Due to branch offices and agents	20,770 70
Due to banks and bankers	55,000 00
Other liabilities, viz.:	
Sundry book accounts	7,793 80
Debenture interest accrued	120,362 88
Total	$7,748,271 12

When organized? November 5, 1875.

Under what State laws? Connecticut, "special charter."

Principal place of business? Middletown, Conn.

Authorized amount of capital? $1,000,000.

Amount of capital subscribed? $800,000.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $146,700.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Eight per cent to April 1, 1891, and six per cent since.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Arkansas, Louisiana, Texas, Mississippi, Colorado, Wisconsin, Minnesota, North and South Dakota, Utah.

State the number and amount of mortgages with interest six months or more in arrears? No exact figures at hand.

Total amount loaned to date? $11,250,139, nearly.

Total amount of loans paid? $3,675,199, nearly.

Number and amount of loans extended the past two years? $21,400, nearly.

Total amount of loans unpaid and outstanding? Guaranteed, $293,220; unguaranteed, none.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? No record kept.

Total amount in process of foreclosure? None.

Is the company subject to examination by local State officers? Yes.

What officer? State bank examiner.

Amount of securities sold in New York State for the past year? $282,650.

What are the "other deposits" mentioned in the statements? None.

Total amount of debentures certified? $6,757,693.59.

Less amount on hand and with agents? $17,667.72.

Less amount unsecured by collateral and sold? $31,876.70.

Total liability for debenture bonds as per statement? $6,708,149.17.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

Trustees for debentures? Security Co., Hartford, Ct., series 1 to 23, 25, 27, A 1 to A 10; Union Trust Co., New York, series 24, 26, 28, 29 to 83, Sterling series AA, BB, CC, DD, 01, T, U, V, W, X, Y, Z, B1, C1.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	Year When			Secured by Pledge of		Amount of debentures.
		Dated.	Due.	Redeemable.	First mortgage loans.	General collateral.	
1 to 9	6	1887	1894	1892	$222,949 53	Cash, $114,837 56	$358,500 00
10 to 22	6	1888	1895	1893	665,257 28	1st mtg. notes, 86,406 71	813,500 00
23. 25, 27, 29 to 41	6	1889	1896	1894	1,279,084 27		1,279,600 00
42 to 56	6	1890	1897	1895	1,229,830 68		1,199,800 00
57 to 69	6	1891	1898	1896	996,996 63		965,550 00
24, 26, 28, 70 to 82	6	1892	1899	1897	1,180,082 87		1,144,050 00
83	6	1893	1900	1898	16,119 63		21,000 00
A 1 to A 9	6	1892	1899	1897	551,526 10		551,000 00
A 10	6	1893	1900	1898	49,710 00		47,500 00
Sterling 01	5	1891–2–3	1895–6–7		20,472 10		19,466 80
Sterling AA	5	1890	1895		25,357 50		24,333 50
Sterling BB	5	1891	1896		25,412 47		24,333 50
Sterling CC	5	1891–2	1894–7		25,618 92		24,333 50
Sterling DD	5	1892	1895–7		14,695 99		13,626 76
Sterling T	4¾	1891	1896		76,408 00		73,000 50
Sterling U	4¾	1891	1896		50,914 41		48,667 00
Sterling V	4¾	1891–2	1896–7		25,676 65		24,333 50
Sterling W	4¾	1892	1897		26,741 50		24,333 50
Sterling X	4¾	1892	1897		26,861 16		24,333 50
Sterling Y	4¾	1892	1897		26,369 77		24,333 50
Sterling Z	4¾	1892	1897		27,204 95		26,304 52
Sterling B 1	4¾	1892	1897		10,282 51		9,733 40
Sterling C 1	4½	1892–3	1897		7,100 46		16,060 11
Totals					$6,580,673 38	$201,244 27	$6,757,693 59
Non-collateral	5	1889	1894				$8,273 33
Sterling	5	1890	1894				7,299 99
Sterling	5	1890	1895				16,303 38

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Farm Land Co. stock, 131 shares, full paid	$6,550 00	$6,550 00	$6,550 00
Farm Invest. Co. stock, 138 shares, full paid	6,900 00	6,900 00	6,900 00
Central Invest. Co. stock, 149 shares, 60 per cent paid	4,470 00	7,450 00	4,470 00
Union Invest. Co. stock, 159 shares, 60 per cent paid	4,770 00	7,950 00	4,770 00
Conn. Invest. Co. stock, 148 shares, 60 per cent paid	4,440 00	7,400 00	4,440 00
New York, Providence & Boston R. R. Co. 4s	20,400 00	20,000 00	20,400 00
Total	$47,530 00	$56,250 00	$47,530 00

OFFICERS AND DIRECTORS.

ROBERT N. JACKSON	*President.*
MERRICK E. VINTON	*First Vice-President.*
CHARLES E. JACKSON	*Second Vice-President.*
HAROLD SMITH	*Treasurer.*
D. T. HAINES	*Secretary.*
E. A. GLADWIN	*Assistant Secretary.*
BENJAMIN DOUGLAS	*Director.*
T. G. CARSON	*Director.*
R. FRISBIE	*Director.*
J. M. DOUGLAS	*Director.*
R. N. JACKSON	*Director.*
M. E. VINTON	*Director.*
C. E. JACKSON	*Director.*
E. H. NASH	*Director.*
A. R. MITCHELL	*Director.*
J. N. CAMP	*Director.*

STATE OF CONNECTICUT, } *ss.:*
COUNTY OF MIDDLESEX. }

I, D. T. Haines, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

D. T. HAINES,
Secretary.

Subscribed and sworn to before me, }
this 26th day of January, 1893. }

E. A. GLADWIN,
Notary Public in and for Middlesex county, Connecticut.

THE NEBRASKA LOAN AND TRUST COMPANY.

HASTINGS, NEBRASKA. ORGANIZED MAY 1, 1882.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$2,022.079 92
Loans secured by second liens on real estate, commission mortgages, cash value	173.214 48
Loans on collateral security (schedule "C")	3,256 58
Loans on personal security	2,465 98
Tax sale certificates	14,754 77
Stocks and bonds (see schedule "A")	4,950 50
Office building	35,000 00
Other real estate, unsold	154,288 28
Foreclosure account	74,535 79
Furniture and fixtures	5,158 15
Warrants	92 80
Past-due interest remitted for, but not paid to us	82,389 32
Cash and sight exchange	36,915 73
Other assets, viz.:	
Brick business property in Hastings	27,847 81
Debenture bonds, with agents, for sale	13,000 00
Accrued interest (not due) on debenture securities	39,766 87
Total	$2,689,716 98

LIABILITIES.	
Capital stock paid in	$500,000 00
Guaranty fund	136,468 00
Undivided profits	23,519 75
Debenture bonds outstanding (schedule "B")	1,965,300 00
Interest paid in advance by borrowers	8,843 04
Deposits awaiting investment at five and one-half per cent interest.	25,386 19
Other deposits awaiting instructions	9,400 00
Other liabilities, viz.:	
Accrued interest (not due) on outstanding debentures	20,800 00
Total	$2,689,716 98

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
			per ct.
July 2, 1888	$1,000 60	$708 58	10
July 29, 1890	3,000 00	2,548 00	10

When organized? May 1, 1882.

Under what State laws? Nebraska.

Principal place of business? Hastings.

Authorized amount of capital? $1,000,000.

Amount of capital subscribed? $500,000.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $38,000.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? $1,000.

Amount of loans due from directors? None, except regular loans on real estate security.

Total amount of its capital stock held by the company as collateral? $4,000.

Rates of dividends for past five years? Three per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Central and southern Nebraska.

State the number and amount of mortgages with interest six months or more in arrears? 731; $437,675.

Total amount loaned to date? $9,843,310.

Total amount of loans paid? $6,031,130.08.

Number and amount of loans extended the past two years? 191; $146,583; extended by agreement; all back interest paid.

Total amount of loans unpaid and outstanding? Guaranteed, $1,790,100; debenture securities, $2,022,079.92.

Number and amount of mortgages foreclosed in the past year? Forty-nine; $43,193.

Total amount in process of foreclosure? $74,271.81.

Is the company subject to examination by local State officers? No; but we make report to State auditor.

Amount of securities sold in New York State for the past year? $202,700.

Total amount of debentures certified? $1,965,300.

Less amount on hand and with agents? $13,000.

Total liability for debenture bonds as per statement? $1,952,300.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Existing conditions will not justify estimating any loss.

Trustees for debentures? W. F. Ringland, C. B. Hutton, W. M. Lowman.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN Dated.	YEAR WHEN Due.	YEAR WHEN Redeemable.	Secured by pledge of first mortgage loans.	Amount of debentures.
1	6	1886	1898	1896	$96.760 00	$96.000 00
2	6	1886	1896	1896	100,840 50	100,000 00
3	6	1886	1898	1896	101,675 00	98,000 00
4	6	1886	1898	1896	100,675 00	99.500 00
5	6	1886	1898	1896	100,500 00	100,000 00
6	6	1886	1898	1896	100,650 00	100.000 00
7	6	1886	1893	1891	101.002 75	100,000 00
8	6	1886	1898	1896	102,036 80	100,000 00
9	6	1886	1898	1896	100,163 00	100.000 00
10	6	1886	1898	1896	100,775 00	100,000 00
11	6	1887	1899	1897	100,775 00	100.000 00
12	6	1887	1899	1897	100,600 00	98,000 00
13	6	1887	1899	1897	101,350 00	100,000 00
14	6	1887	1899	1897	100,000 00	100.000 00
15	6	1887	1899	1897	100,177 00	100,000 00
16	6	1887	1899	1897	100,283 00	100,000 00
17	6	1887	1894	1892	14,450 00	14,400 00
18	6	1888	1900	1898	63.850 00	62,800 00
19	6	1888	1896	1894	101,550 00	100,000 00
20	6	1890	1897	1895	99,400 00	98,500 00
21	6	1891	1898	1896	83,200 00	79,400 00
22	5½	1892	1899	1897	19,200 00	18,700 00
Totals	......	......	......	....	$1,989,913 05	$1,965,300 00

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.
Enterprise Building Association stock	$3,277 50	$3,277 50
West Side Improvement Company	1,650 00	1,650 00
Webster county school bond, district 49	23 00	23 00

OFFICERS AND DIRECTORS.

JAMES N. CLARKE	*President.*
D. M. MCELHINNEY	*Vice-President.*
EDWIN C. WEBSTER	*Treasurer.*
CHARLES P. WEBSTER	*Cashier.*
OSWALD OLIVER	*Director.*
GEORGE H. PRATT	*Director.*
HORACE F. BOARDMAN	*Director.*
SAMUEL ALEXANDER	*Director.*
F. J. BENEDICT	*Director.*

STATE OF NEBRASKA, } *ss.:*
COUNTY OF ADAMS. }

I, E. C. Webster, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

E. C. WEBSTER.

Subscribed and sworn to before me, }
this 17th day of January, 1893. }

E. B. LOCKWOOD,
Notary Public.

THE NEW ENGLAND LOAN AND TRUST COMPANY.

DES MOINES, IOWA. ORGANIZED, 1876.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$4,109,350 82
Loans secured by second liens on real estate	7,227 55
Loans on collateral security (schedule "C")	13,061 68
Loans on personal security	465 55
Tax sale certificates	15,146 90
Stocks and bonds (see schedule "A")	15,025 00
Other real estate	255,197 25
Foreclosure account	20,194 25
Furniture and fixtures	6,862 26
Past-due interest remitted for, but not paid to us	27,711 42
Past-due loans remitted for, but not paid to us	19,938 00
Due from branch offices and agents	7,665 70
Cash	76,010 55
Other assets, viz.:	
Installment commission notes secured by second mortgage	317,867 14
Short-time commission notes secured by second mortgage	24,198 17
Land contracts for remaining payments on land sold	26,982 97
Total	$4,942,905 21

LIABILITIES.	
Capital stock paid in	$760,000 00
Undivided profits	123,748 02
Debenture bonds outstanding (schedule "B")	3,605,668 75
Interest paid in advance by borrowers	25,782 07
Due borrowers on loans made	3,037 87
Certificates of deposit bearing interest	68,905 38
Deposits awaiting investment	114,351 87
Other deposits	19,085 77
Due to banks and bankers	195,000 00
Other liabilities, viz.:	
Treasurer's checks	27,325 48
Total	$4,942,905 21

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	Rate of interest.
			per ct.
November 12, 1892	$240 00	$200 00	8
December 30, 1892	1,560 00	1,300 00	8
July 3, 1890	240 00	42 52	8
December 8, 1892	1,600 00	300 00	8
March 29, 1892	2,400 00	500 00	8
December 30, 1892	1,000 00	200 00	8
December 9, 1892	3,000 00	500 00	8
September 21, 1892	960 00	805 00	7
October 7, 1892	600 00	264 16	6
October 10, 1892	1,000 00	700 00	6
October 2, 1891	800 00	250 00	6
December 31, 1892	4,000 00	4,000 00	7
December 31, 1892	3,400 00	3,400 00	7
September 9, 1892	600 00	600 00	8
Total	$21,400 00	$13,061 68	.....

When organized? 1876.

Under what State laws? Iowa.

Principal place of business? Des Moines, Iowa.

Authorized amount of capital? $1,000,000.

Amount of capital subscribed? $760,000.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $150,800.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? $7,400.

Amount of loans due from directors, $7,400.

Total amount of its capital stock held by the company as collateral? $7,400.

Rates of dividends for past five years? Eight per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Iowa, eastern Kansas and Nebraska, Missouri, Salt Lake and Ogden, and north central Texas.

State the number and amount of mortgages with interest six months or more in arrears? $214,660.

Total amount loaned to date? $20,488,263.50.

Total amount of loans paid? $10,021,443.24.

Number and amount of loans extended the past two years? $485,000.

Total amount of loans unpaid and outstanding? Guaranteed, $5,441,164; unguaranteed, $5,025,656.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? $3,106.74.

Number and amount of mortgages foreclosed in the past year? $206.492.

Total amount in process of foreclosure? $202,150.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $270,732.

What are the "other deposits" mentioned in the statements? Subject to check at Des Moines.

Total amount of debentures certified? $3.616,368.75.

Less amount on hand and with agents? $10,700.

Total liability for debenture bonds as per statement? $3,605,668.75.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Net result of foreclosures has been a profit.

Trustees for debentures? Farmers' Loan and Trust Company, New York, series 1 to 25, 6 per cent, and series "B," 5 per cent; Real Estate Trust Company, Philadelphia. series "A" to "G," 6 per cent; Home and Colonial Assets and Debenture Corporation, Edinburgh, series 1 and 2, 5 per cent. and "A," 4½; United States Trust Company, Kansas City, Missouri, series "J" to "P," 7 per cent, and "R." 6½.

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	Year When			Secured by Pledge of		Amount of	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mortgage loans.	Security.	Debentures.
1	6	1886	1896	1891	$102.300 00	....	$102,300 00	$100,000 00
2	6	1887	1897	1892	102.075 00	....	102.075 00	100,000 00
3	6	1887	1897	1892	102,380 00	....	102.380 00	100,000 00
4	6	1887	1897	1892	102.260 00	....	102,260 00	100,000 00
5	6	1887	1897	1892	102,155 00	....	102.155 00	100.000 00
6	6	1887	1897	1892	103,260 00	....	103.260 00	100,000 00
7	6	1888	1898	1893	102.060 00	....	102.060 00	100,000 00
8	6	1888	1898	1893	102,300 00	....	102.300 00	100,000 00
9	6	1888	1898	1893	102,000 00	....	102.000 00	100.000 00
10	6	1888	1898	1893	102.100 00	....	102.100 00	100.000 00
11	6	1888	1898	1893	102,000 00	....	102,000 00	100,000 00
12	6	1888	1898	1893	102.250 00	....	102,250 00	100,000 00
13	6	1888	1898	1893	102.147 00	....	102.147 00	100.000 00
14	6	1889	1899	1894	102.050 00	....	102.050 00	100,000 00
15	6	1889	1899	1894	102,260 00	....	102.260 00	100,000 00
16	6	1889	1899	1894	102,155 00	....	102.155 00	100.000 00
17	6	1889	1899	1894	102,090 00	....	102.090 00	100.000 00
18	6	1889	1899	1894	102.050 00	....	102.050 00	100,000 00
19	6	1889	1899	1894	102,175 00	....	102.175 00	100,000 00
20	6	1889	1899	1894	102.010 00	....	102.010 00	100.000 00
21	6	1889	1899	1894	102,050 00	....	102.050 00	100.000 00
22	6	1890	1900	1895	102,050 00	....	102.050 00	100.000 00
23	6	1891	1901	1896	102.125 00	....	102.125 00	100,000 00
24	6	1891	1901	1896	102,195 00	....	102.195 00	100.000 00
25	6	1892	1902	1897	34,000 00	....	34.000 00	30.000 00
A	6	1891	1901	1896	102.035 00	....	102.035 00	100.000 00
B	6	1891	1901	1896	102.100 00	....	102,100 00	100.000 00
C	6	1892	1902	1897	102.295 00	....	102.295 00	100.000 00
D	6	1892	1902	1897	102.000 00	....	102.000 00	100.000 00
E	6	1892	1902	1897	48.400 00	....	48.400 00	47.000 00
F	6	1892	1902	1897	36.700 00	....	36.700 00	35.000 00
G	6	1892	1902	1897	48.065 00	....	48.065 00	47,000 00
1 & 2	5	1891 1892	1896 1897	....	272,400 00	....	272.400 00	242.500 00
B	5	Var.	......	....	126,485 00	....	126.485 00	115,405 75
A	4½	Var.	......	....	123.650 00	....	123.650 00	118.485 50
J to P	7	Var.	......	....	....	$72.500 00	72.500 00	64.550 00
R	6½	Var.	......	....	....	100,000 00	100.000 00	90.000 00
	5-6½	Var.	......	....	Free.	....	....	26.427 50
Total	....	......	......	....	$3,550,627 00	$172,500 00	$3,723.127 00	$3,616,368 75

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
East Side Bank, New York	$2,500 00	$2,000 00	$2,500 00
Western Investment Co., Le Mars, Iowa	1,000 00	1,000 00	1,000 00
Provident Trust Co., Omaha, Neb.	9,900 00	9,900 00	9,900 00
People's Savings Bank, Des Moines	500 00	500 00	500 00
Iowa National Bank, Des Moines	1,125 00	1,000 00	1,125 00
Total	$15,025 00	$14,400 00	$15,025 00

OFFICERS AND DIRECTORS.

D. O. ESHBAUGH	*President.*
W. W. WITMER	*Vice-President.*
W. F. BARTLETT	*Secretary.* *Treasurer.*
R. B. FERRIS	*Director.*
F. K. HIPPLE	*Director.*
HENRY WHELEN	*Director.*
E. D. SAMSON	*Director.*
JOHN WYMAN	*Director.*
G. W. MARQUARDT	*Director.*
E. E. SAVAGE	*Director.*

STATE OF NEW YORK, } *ss.:*
COUNTY OF NEW YORK. }

I, W. F. Bartlett, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

W. F. BARTLETT.

Subscribed and sworn to before me, }
this 12th day of January, 1893. }

L. E. CARMAN,
Notary Public No. 83, New York county.

Certificate filed in Kings county.

THE NORTH AMERICAN LOAN AND TRUST COMPANY OF REDFIELD, SOUTH DAKOTA.

Chicago, Illinois. Organized November, 1887.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$1,438,641 99
Loans secured by second liens on real estate	75,241 70
Earned commission on debenture loans	55,492 49
Tax sale certificates	12,558 48
Stocks and bonds (see schedule "A")	15,250 00
Foreclosure account	1,591 39
Furniture and fixtures	4,065 37
Current expenses	25,320 87
Past-due interest remitted for, but not paid to us	48,753 00
Past-due loans remitted for, but not paid to us	23,173 00
Due from sundry persons	6,166 63
Due from banks and bankers	91,915 47
Other assets, viz.:	
Debentures unsold	12,700 00
Debenture interest	32,573 48
Due from other companies	59,515 13
Total	$1,902,959 00

LIABILITIES.	
Capital stock paid in	$538,190 00
Surplus fund	80,000 00
Undivided profits	74,842 32
Debenture bonds outstanding (schedule "B")	1,178,389 29
Interest paid in advance by borrowers	3,710 11
Loans paid, but not remitted for	6,047 50
Due borrowers on loans made	11,113 70
Other deposits	2,469 40
Due to branch offices and agents	6,921 88
Due to banks and bankers	1,274 80
Total	$1,902,959 00

When organized? November, 1887.
Under what State laws? Dakota.
Principal place of business? 190 and 192 Dearborn street, Chicago.
Authorized amount of capital? $10,000,000.
Amount of capital subscribed? $3,000,000.
What is the personal liability of stockholders? $2,461,810.

How much of its capital stock is owned by the officers of the company? $1,609,300.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Eight per cent annual.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? South Dakota, Kansas, Washington, Montana, Colorado, Minnesota and Texas.

State the number and amount of mortgages with interest six months or more in arrears? 185; $148,000.

Total amount loaned to date? $4,118,808, approximated.

Total amount of loans paid? $2,247.000, approximated.

Number and amount of loans extended the past two years? 300, approximated; $190,000.

Total amount of loans unpaid and outstanding? Guaranteed, none; unguaranteed, $865,000, approximated.

Do you advance interest on unguaranteed loans? When known to be good.

How much have you so advanced? $48,753.

Number and amount of mortgages foreclosed in the past year? 175; $122,500; all sold.

Total amount in process of foreclosure? Eighteen: $10.650; land disposed of when foreclosure complete.

Is the company subject to examination by local State officers? Yes.

What officer? State examiner.

Amount of securities sold in New York State for the past year? $239,586.

What are the "other deposits" mentioned in the statements? Deposits of officers and customers.

Total amount of debentures certified? $1,178,389.29.

Less amount on hand and with agents? $12.700.

Total liability for debenture bonds as per statement? $1,165,689.29.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing; we do not guarantee loans sold. Debentures, nothing.

Trustees for debentures? 1, 2, 3, 7, 8, British & "B" Brit., Jno. H. Miller, Huron, South Dakota, J. W. Campbell and L. H. Hole, Chicago; 4, 5, 6 American Trust Co., Concord, N. H; "C" and "D" British, Jennings Trust Co., Chicago.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	Year When			Secured by pledge of first mortgage loans.	Amount of debentures.
		Dated.	Due.	Redeemable.		
1	6	Dec. 1, 1887	Dec. 1, 1897	Dec. 1, 1892	$100,898 65	$100,000 00
2	6	Aug. 1, 1888	Aug. 1, 1898	Aug. 1, 1893	100,825 75	100,500 00
3	6	Sept. 1, 1889	Sept. 1, 1899	Sept. 1, 1894	92,983 84	92,000 00
4	6	Oct. 1, 1888	Oct. 1, 1898	Oct. 1, 1893	101,220 00	96,800 00
5	6	May 1, 1890	May 1, 1900	May 1, 1895	35,775 00	34,200 00
6	6	June 1, 1891	June 1, 1901	June 1, 1896	71,594 00	67,300 00
7	6	July 1, 1891	July 1, 1901	July 1, 1896	100,585 00	100,000 00
8	6	Nov. 1, 1892	Nov. 1, 1902	Nov. 1, 1897	14,350 00	9,600 00
British	5	*	*	*	125,000 00	101,709 85
"B" British	5	*	*	*	125,000 00	33,822 16
"C" British	4¾	*	*	*	440,410 75	391,651 03
"D" British	4¾	*	*	*	73,700 00	50,806 25
Totals					$1,382,342 99	$1,178,389 29

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Twenty-five shares Artesian Irrigating stock	$250 00	$250 00	$250 00
Two hundred shares Huron Water Works stock	5,000 00	20,000 00	10,000 00
One hundred shares Valley Land and Irrigation stock	10,000 00	10,000 00	10,000 00
	$15,250 00	$30,250 00	$20,250 00

OFFICERS AND DIRECTORS.

L. H. HOLE	*President.*
W. N. COLER, JR.	*Vice-President.*
J. W. CAMPBELL	*Secretary and Treasurer.*
W. N. COLER	*Director.*
JOHN H. MILLER	*Director.*
A. E. TAYLOR	*Director.*
JAMES L. UTTER	*Director.*
THOMAS H. CAMPBELL	*Director.*
THOMAS E. PACKER	*Director.*

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* Each bond has its own date, maturing in five and ten years.

STATE OF ILLINOIS, } *ss.:*
COUNTY OF COOK. }

I, L. H. Hole, president of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

L. H. HOLE,
President.

Subscribed and sworn to before me, }
this 20th day of January, 1893. }

F. H. WILDMAN.
Notary Public.

THE NORTHWESTERN GUARANTY LOAN COMPANY.

MINNEAPOLIS, MINNESOTA. ORGANIZED 1884.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$2,259,093 22
Loans on collateral security (schedule "C")	391,619 83
Stocks and bonds (see schedule "A")	1,154,435 00
Other real estate	14,543 31
Foreclosure account	1,442 20
Furniture and fixtures	457 32
Past-due interest remitted for; but not paid to us	31,309 39
Past-due loans remitted for, but not paid to us	5,575 00
Due from branch offices and agents	36,174 67
Due from sundry persons	28,969 44
Due from banks and bankers	196,391 64
Cash	2,932 34
Other assets, viz.: Insurance	91 95
Total	$4,123,035 31

LIABILITIES.	
Capital stock paid in	$1,250,000 00
Surplus fund	150,000 00
Undivided profits	30,874 93
Unearned profits, collected	10,681 55
Debenture bonds outstanding (schedule "B")	2,059,500 00
Debenture bonds, installment	4,238 65
Dividends unpaid, due Jan. 1, 1893	50,000 00
Interest paid in advance by borrowers	2,179 99
Loans paid in advance by borrowers	43,442 46
Certificates of indebtedness bearing interest	87,512 80
Other deposits	428,141 93
Other liabilities, viz.: Cashier's checks	6,463 00
Total	$4,123,035 31

SCHEDULE "C."

Loans on Collateral Securities.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.
2252	November 1, 1890	$3,600 00	$1,200 00
2321	November 29, 1890	600 00	275 00
2425	September 20, 1890	7,500 00	3,000 00
2542	October 2, 1890	7,000 00	1,000 00
2745	January 16, 1891	16,500 00	3,000 00
6	January 16, 1891		2,500 00
78	December 29, 1890	1,500 00	450 00
3115	April 2, 1891	6,500 00	2,000 00
3597	May 4, 1891	7,000 00	2,500 00
4212	August 26, 1891	2,000 00	1,797 00
4324	August 31, 1891	3,500 00	700 00
4614	September 25, 1891	10,000 00	3,615 00
4702	September 17, 1891	15,000 00	6,500 00
4896	November 19, 1891	12,500 00	3,815 00
4970	October 31, 1891	2,000 00	260 00
5136	November 20, 1891	Included in value, 5259–62. (See below.)	2,500 00
7	November 20, 1891		2,500 00
8	November 20, 1891		2,500 00
9	November 20, 1891		2,500 00
40	November 20, 1891		2,500 00
51	December 21, 1891	1,300 00	275 00
5227	December 29, 1891	2,000 00	1,500 00
8	December 29, 1891		418 00
46	December 26, 1891	3,000 00	850 00
59	November 20, 1891	....	2,500 00
60	November 20, 1891	....	2,500 00
61	November 20, 1891	53,000 00	2,500 00
62	November 20, 1891	....	2,500 00
5359	December 28, 1891	1,400 00	240 00
5459	October 31, 1891	2,500 00	1,000 00
60	December 18, 1891	1,110 00	1,108 25
5515	January 25, 1892	3,000 00	1,250 00
5675	February 12, 1892	4,700 00	450 00
5743	December 24, 1891	10,000 00	1,000 00
57	February 23, 1892	2,800 00	1,050 00
5864	March 4, 1892	1,750 00	650 00
5952	February 27, 1892	170 00	170 30
6099	April 16, 1892	81 00	81 00
6173	January 27, 1892	3,350 00	560 00
76	March 22, 1892	6,000 00	2,000 00
6257	April 12, 1892	1,690 00	270 00
69	April 27, 1892	9,000 00	200 00
6521	May 25, 1892	4,500 00	2,000 00
68	March 22, 1892	5,000 00	2,350 00
6613	April 8, 1892	12,000 00	3,225 00
59	May 20, 1892	1,350 00	350 00
6722	April 30, 1892	3,500 00	1,250 00
87	January 4, 1892	1,000 00	670 00
6945	June 10, 1892	2,500 00	900 00
7039	July 16, 1892	7,100 00	3,500 00
74	April 25, 1892	1,590 00	400 00
7198	December 8, 1892	3,400 00	1,300 00
7515	June 10, 1892	1,000 00	350 00
76	September 17, 1892	500 00	25 00
7879	October 22, 1892	113 00	112 85

SCHEDULE "C"—(*Continued*).

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.
8338	November 23, 1892	$1,500 00	$1,500 00
7022	July 13, 1892	4,050 00	2,000 00
52	July 16, 1892	5,800 00	2,600 00
7787	October 12, 1892	5,000 00	2,610 00
8041	October 31, 1892	4,700 00	2,000 00
8181	November 10, 1892	4,100 00	2,000 00
8200	November 11, 1882	5,500 00	2,500 00
30	November 15, 1892	3,100 00	1,500 00
37	November 16, 1892	5,750 00	2,500 00
43	November 17, 1892	6,100 00	3,000 00
47	November 18, 1892	1,500 00	750 00
87	November 14, 1892	6,100 00	2,876 50
8301	November 19, 1892	500 00	225 00
09	November 7, 1892	6,150 00	3,000 00
30	November 9, 1892	1,200 00	275 00
37	November 1, 1892	40 00	40 00
57	December 2, 1892	5,100 00	2,500 00
65	December 1, 1892	5,700 00	2,500 00
83	December 2, 1892	5,350 00	2,500 00
87	December 3, 1892	5,100 00	2,500 00
97	December 5, 1892	4,400 00	2,250 00
8480	December 10, 1892	4,100 00	2,000 00
1	December 10, 1892	4,300 00	2,000 00
98	December 12, 1892	2,000 00	1,000 00
8521	December 15, 1892	8,100 00	4,000 00
24	December 10, 1892	5,700 00	2,500 00
25	December 10, 1892	5,500 00	2,500 00
32	December 9, 1892	5,600 00	2,875 00
33	December 9, 1892	5,600 00	2,875 00
36	December 12, 1892	4,350 00	2,000 00
41	December 12, 1892	4,166 00	2,000 00
51	December 14, 1892	1,500 00	770 00
57	December 14, 1892	2,500 00	1,250 00
61	December 17, 1892	4,100 00	2,000 00
65	December 17, 1892	4,500 00	2,250 00
66	December 16, 1892	5,010 00	2,500 00
69	December 16, 1892	5,100 00	2,500 00
73	December 16, 1892	5,300 00	2,500 00
74	December 16, 1892	5,700 00	2,500 00
80	December 16, 1892	5,400 00	2,750 00
81	December 16, 1892	6,139 00	3,000 00
85	December 1, 1892	7,500 00	3,000 00
92	December 17, 1892	2,100 00	1,000 00
94	December 13, 1892	2,510 00	1,275 00
96	December 13, 1892	2,510 00	1,275 00
8600	December 14, 1892	6,000 00	3,000 00
1	December 15, 1892	2,900 00	1,500 00
2	December 15, 1892	3,000 00	1,500 00
5	December 15, 1892	2,800 00	1,500 00
6	December 15, 1892	3,100 00	1,500 00
7	December 16, 1892	5,057 00	2,637 50
10	December 16, 1892	4,943 00	2,637 50
13	December 17, 1892	4,411 00	2,225 00
21	December 12, 1892	5,119 00	2,500 00
22	December 19, 1892	5,010 00	2,500 00
23	December 19, 1892	5,000 00	2,500 00

SCHEDULE "C"—(*Continued*).

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.
25	December 19, 1892	$2,560 00	$1,250 00
26	December 19, 1892	2,600 00	1,250 00
8627	December 19, 1892	2,510 00	1,250 00
29	December 20, 1892	2,100 00	1,000 00
30	December 20, 1892	2,300 00	1,000 00
40	November 30, 1892	6,150 00	3,000 00
45	December 9, 1892	5,600 00	2,750 00
47	December 16, 1892	5,010 00	2,500 00
48	December 16, 1892	5,019 00	2,500 00
49	December 16, 1892	5,076 00	2,500 00
50	December 16, 1892	4,090 00	2,000 00
54	December 22, 1892	3,000 00	1,500 00
57	December 22, 1892	2,100 00	1,000 00
63	December 22, 1892	1,000 00	500 00
64	December 22, 1892	1,100 00	500 00
65	December 22, 1892	900 00	500 00
9	December 20, 1892	1,900 00	1,000 00
70	December 20, 1892	2,100 00	1,000 00
2	December 20, 1892	2,250 00	1,000 00
83	December 1, 1892	800 00	300 00
86	December 1, 1892	1,500 00	300 00
88	November 28, 1892	5,100 00	2,500 00
89	November 28, 1892	5,050 00	2,500 00
90	November 28, 1892	4,900 00	2,500 00
91	November 28, 1892	5,700 00	2,500 00
93	December 9, 1892	4,000 00	2,000 00
94	December 9, 1892	4,100 00	2,000 00
95	December 17, 1892	4,700 00	2,000 00
97	December 17, 1892	4,230 00	2,000 00
98	December 20, 1892	1,100 00	550 00
99	September 27, 1892	7,000 00	2,700 00
8701	December 19, 1892	5,010 00	2,500 00
2	December 19, 1892	4,975 00	2,500 00
3	December 19, 1892	5,100 00	2,500 00
6	December 13, 1892	4,000 00	1,881 00
7	December 15, 1892	1,300 00	650 60
8709	December 15, 1892	3,000 00	1,500 00
10	December 15, 1892	2,600 00	1,200 00
11	December 15, 1892	2,750 00	1,000 00
12	December 15, 1892	2,100 00	1,000 00
13	December 15, 1892	4,100 00	2,000 00
14	December 22, 1892	1,900 00	1,000 00
16	December 28, 1892	2,710 00	1,320 00
17	December 28, 1892	2,715 00	1,320 00
18	December 28, 1892	2,900 00	1,320 00
19	December 28, 1892	2,873 00	1,320 00
20	December 28, 1892	2,650 00	1,320 00
21	December 28, 1892	5,010 00	2,500 00
22	December 28, 1892	5,000 00	2,500 00
23	December 28, 1892	5,019 00	2,500 00
24	December 28, 1892	5,000 00	2,500 00
25	December 28, 1892	5,023 00	2,500 00
26	December 28, 1892	5,000 00	2,500 00
27	December 28, 1892	4,900 00	2,500 00
28	December 28, 1892	4,800 00	2,500 00
29	December 28, 1892	5,000 00	2,500 00

SCHEDULE "C" — (*Continued*).

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.
30	December 28, 1892	$5,100 00	$2,500 00
31	December 28, 1892	5,110 00	2,500 00
32	December 28, 1892	5,700 00	2,500 00
33	December 29, 1892	3,300 00	2,500 00
8734	December 29, 1892	5,100 00	2,500 00
5	December 29, 1892	5,000 00	2,500 00
6	December 29, 1892	5,100 00	2,500 00
7	December 30, 1892	3,200 00	1,500 00
8	December 30. 1892	3.400 00	1,500 00
9	December 30, 1892	3,000 00	1,500 00
40	December 30, 1892	2,900 00	1,500 00
1	December 30, 1892	3,400 00	1,500 00
2	December 30, 1892	3,700 00	1,500 00
3	December 30, 1892	6,110 00	3,000 00
4	December 30, 1892	6,500 00	3,000 00
5	December 30, 1892	4,100 00	2,000 00
6	December 30, 1892	4,310 00	2,000 00
7	December 30, 1892	4,700 00	2,000 00
8	December 30, 1892	4,800 00	2,000 00
9	December 30, 1892	4,000 00	2,000 00
50	December 29, 1892	5.300 00	2.637 50
1	December 29, 1892	5,510 00	2,637 50
2	December 30, 1892	5,000 00	2,500 00
3	December 30, 1892	5,010 00	2,500 00
4	December 30, 1892	3,010 00	1,500 00
5	December 30, 1892	2,900 00	1,500 00
6	December 30, 1892	8,400 00	4,000 00
7	December 27, 1892	2,100 00	1,000 00
8	December 27, 1892	2,200 00	1,000 00
9	December 27, 1892	2,700 00	1,000 00
60	December 27, 1892	2,650 00	1,000 00
1	December 27, 1892	2,100 00	1,000 00
2	December 27, 1892	1,900 00	1,000 00
3	December 28, 1892	1,100 00	500 00
4	December 28, 1892	1.100 00	500 00
5	December 28, 1892	1,100 00	500 00
6	December 28, 1892	1,100 00	500 00
7	December 28, 1892	1.100 00	500 00
8	December 28, 1892	3,250 00	1,500 00
9	December 29, 1892	3,100 00	1.500 00
70	December 29, 1892	3,150 00	1,500 00
1	December 29, 1892	3.000 00	1,500 00
2	December 29, 1892	3,150 00	1.500 00
3	December 8, 1892	10,000 00	2,000 00
4	December 8, 1892		2,000 00
5	December 8, 1892		1,000 00
6	December 28, 1892	4,000 00	2,000 00
8777		4,100 00	2,000 00
8		4,650 00	2,000 00
9		4,500 00	2,000 00
80		4,100 00	2,000 00
1		3,100 00	1,599 33
Total			$391,619 83

When organized? 1884.

Under what State laws? Minnesota.

Principal place of business? Minneapolis, Minn.

Authorized amount of capital? $2,000,000.

Amount of capital subscribed? $1,250,000.

What is the personal liability of stockholders? $1,250,000.

How much of its capital stock is owned by the officers of the company? $325,100.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? Not any.

Amount of loans due from directors? $97,833.

Total amount of its capital stock held by the company as collateral? Not any.

Rates of dividends for past five years? Four per cent semi-annual.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Minnesota, Hennepin and Ramsey counties; Montana, Lewis and Clarke counties; Washington, King county.

State the number and amount of mortgages with interest six months or more in arrears? Interest six months overdue, $15,745.71.

Total amount loaned to date? $21,914,375.17.

Total amount of loans paid? $15,866,538.10.

Number and amount of loans extended the past two years? Sixty-two; $79,330.

Total amount of loans unpaid and outstanding? Guaranteed, $3,497,661.42; $2,550,175.65 on hand and back of debentures.

Do you advance interest on unguaranteed loans? No.

Number and amount of mortgages foreclosed in the past year? Twenty-three: $72,335.

Total amount in process of foreclosure? $72,335.

Is the company subject to examination by local State officers? Yes.

What officer? State bank examiners.

Amount of securities sold in New York State for the past year? Sold through agents; purchaser unknown.

What are the "other deposits" mentioned in the statements? Sundry individuals.

Total amount of debentures certified? $2,139,750.

Less amount on hand and with agents? $80,250.

Total liability for debenture bonds as per statement? $2,059,500.

Trustees for debentures? American Loan and Trust Co., Boston, series A, B, C, D, (M. D. L. Co.) B, C, F, G, J, K, L, P, S, X, AA, BB, EE, FF, GG, II, KK, OO, QQ, VV; Ind. Tr. Co., Providence, R. I., series E, H, I, M, N, R, Y, DD, JJ, MM, PP; Commonwealth T. Ins. and Tr. Co., Philadelphia, series A, D, O, Q, V, W, CC, HH, NN; Manhattan Trust Co., N. Y., series U, LL; Maine Tr. Banking Co., Gardiner, Me., T; Chicago Title Ins. and Tr. Co., Chicago, Ill., series SS.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			Secured by pledge of first mortgage loans.	AMOUNT OF	
		Dated.	Due.	Redeemable.		Security.	Debentures.
Minneapolis Debenture Loan Company:							
A, B, C	6	....	....	....	....	$550 00	$550 00
D	6	1888	1893	1893	$46,257 50	46,257 50	44,000 00
Northwestern Guaranty Loan Company:							
A	6	1889	1894	1894	52,530 00	52,530 00	50,000 00
B	6	1889	1894	1894	52,545 00	52,545 00	50,000 00
C	6	1889	1894	1894	52,575 00	52,575 00	50,000 00
D	6	1889	1894	1894	52,500 00	52,500 00	50,000 00
E	6	1889	1894	1894	52,525 00	52,525 00	50,000 00
F	6	1889	1894	1894	52,590 00	52,590 00	50,000 00
G	6	1889	1894	1894	52,525 00	52,525 00	50,000 00
H	6	1889	1894	1894	52,500 00	52,500 00	50,000 00
I	6	1889	1894	1894	52,525 00	52,525 00	50,000 00
J	6	1889	1894	1894	52,550 00	52,550 00	50,000 00
K	6	1889	1894	1894	52,500 00	52,500 00	50,000 00
L	6	1889	1894	1894	52,600 00	52,600 00	50,000 00
M	6	1889	1894	1894	52,500 00	52,500 00	50,000 00
N	6	1889	1894	1894	52,600 00	52,600 00	50,000 00
O	6	1889	1094	1894	52,640 00	52,640 00	50,000 00
P	6	1889	1894	1894	52,505 00	52,505 00	50,000 00
Q	6	1889	1894	1894	52,550 00	52,550 00	50,000 00
R	6	1889	1894	1894	52,510 00	52,510 00	50,000 00
S	6	1889	1894	1894	52,500 00	52,500 00	50,000 00
T	6	1889	1894	1894	30,707 31	30,707 31	29,200 00
U	6	1890	1900	1900	43,207 40	43,207 40	41,150 00
V	6	1890	1895	1895	52,550 00	52,550 00	50,000 00
W	6	1890	1895	1895	52,635 00	52,635 00	50,000 00
X	6	1890	1895	1895	52,535 00	52,535 00	50,000 00
Y	6	1890	1895	1895	52,530 00	52,530 00	50,000 00
AA	6	1890	1895	1895	52,700 00	52,700 00	50,000 00
BB	6	1890	1895	1895	52,520 00	52,520 00	50,000 00
CC	6	1890	1895	1895	52,505 00	52,505 00	50,000 00
DD	6	1891	1896	1896	52,635 00	52,635 00	50,000 00
EE	6	1890	1895	1895	52,585 00	52,585 00	50,000 00
FF	6	1891	1896	1896	52,500 00	52,500 00	50,000 00
GG	6	1891	1896	1896	52,560 01	52,560 01	50,000 00
HH	6	1891	1896	1896	52,580 00	52,580 00	50,000 00

II	6	1891	1896	1896	52,500 00	52,500 00	50,000 00
JJ	6	1891	1896	1896	38,710 00	38,710 00	36,850 00
KK	6	1892	1897	1897	52,595 00	52,595 00	50,000 00
LL	6	1891	1896	1896	52,575 00	52,575 00	50,000 00
MM	6	1892	1897	1897	52,575 00	52,575 00	50,000 00
NN	6	1892	1897	1897	52,501 00	52,501 00	50,000 00
OO	6	1892	1897	1897	52,537 50	52,537 50	50,000 00
PP	6	1892	1897	1897	8,697 50	8,697 50	8,250 00
QQ	6	1892	1897	1897	36,680 00	36,680 00	34,900 00
RR	6	1892	1897	1897	51,995 00	51,995 00	49,500 00
SS	6	1892	1897	1897	27,405 00	27,405 00	26,100 00
UU	6	1892	1897	1897	10,160 00	10,160 00	9,650 00
VV	6	1892	1897	1897	10,110 00	10,110 00	9,600 00
Totals	......	....	....	....	....	$2,248,868 22	$2,139,750 00

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.	Market value.
First National Bank, Minneapolis, 100 shares..........	$13,000 00	$10,000 00	$15,800 00
Security Bank of Minnesota, Minneapolis, 110 shares.	15,250 00	11,000 00	18,150 00
Northwestern National Bank, Minneapolis, 10 shares.	1,390 00	1,000 00	1,630 00
Bank of Minneapolis, Minneapolis, 10 shares..........	1,000 00	1,000 00	1,170 00
Merchants' National Bank, St. Paul, 50 shares........	9,050 00	5.000 00	11,150 00
Germania Bank, St. Paul, 43 shares....................	5.560 00	4,300 00	5.375 00
St. Paul National Bank, St. Paul, 35 shares...........	3.920 00	3,500 00	4.305 00
National German-American Bank, St. Paul, 20 shares.	2,300 00	2,000 00	2,400 00
Albuquerque National Bank, Albuquerque, 25 shares.	2,750 00	2.500 00	2,750 00
First National Bank, Hot Springs, S. D., 40 shares....	4,000 00	4,000 00	4,400 00
Flour City National Bank, Minneapolis, 150 shares....	16,650 00	15.000 00	16,950 00
Montana Trust Co., 250 shares	25.000 00	25,000 00	25,000 00
Consolidated Railway of Vermont, $4,000 bonds......	3.490 00	4.000 00	3,600 00
Kansas Investment Co. bonds........................	200 00	200 00	200 00
Montana Trust Co., 90 shares	9.000 00	9,000 00	9,000 00
Helena Trust Co., 250 shares	25,000 00	25,000 00	26.250 00
New England Bank, Minneapolis, 25 shares	2,500 00	2,500 00	2,575 00
Nicollet National Bank, Minneapolis, 105 shares	10,500 00	10,500 00	12,075 00
Guaranty Loan Build'g Co., Minneapolis, 10,000 shares	1,000.000 00	1.000,000 00	1,000,000 00
Industrial Co., Providence, R. I., sub. acc., 50 shares..	2,875 00	2,500 00	2,875 00
Union National Bank, Minneapolis, 10 shares,........	1,000 00	1,000 00	1,020 00
Total	$1,154,435 00	$1,139,000 00	$1,166,675 00

OFFICERS AND DIRECTORS.

Louis T. Menage	*President.*
Thomas Lowry	*Vice-President.*
W. S. Streeter............................	*Vice-President.*
S. M. Houghton...........................	*Vice-President.*
H. K. Cole................................	*Treasurer.*
F. J. Percival	*Secretary.*
Charles Robinson.........................	*Assistant Secretary.*
F. R. Chase	*Cashier.*
W. D. Washburn	*Director.*
George A. Pillsbury	*Director.*
Loren Fletcher...........................	*Director.*
C. H. Pettit..............................	*Director.*
J. M. Addeman............................	*Director.*
W. H. Eustis.............................	*Director.*
J. H. Carpenter	*Director.*
W. Crocker...............................	*Director.*
W. H. Clark.......	*Director.*

STATE OF MINNESOTA, } *ss.:*
County of Hennepin. }

I, Frank J. Percival, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

FRANK J. PERCIVAL.

Subscribed and sworn to before me, }
this 21st day of January, 1893. }

John M. Norris,
Notary Public, Hennepin county, Minn.

THE NORTHWESTERN MORTGAGE TRUST COMPANY.

Redfield, South Dakota. Organized November, 1887.

ASSETS.	January 1, 1898.
Loans secured by first liens on real estate	$39,948 75
Loans secured by second liens on real estate	10,893 51
Loans on collateral security (schedule "C")	10,567 82
Tax sale certificates	6,305 13
Stocks and bonds (see schedule "A")	2,000 00
Other real estate	17,970 82
Foreclosure accounts	875 00
Furniture and fixtures	462 10
Current expenses	4,262 12
Due from branch offices and agents	8,294 45
Due from sundry persons	242 50
Due from banks and bankers	17,145 67
Due on uncompleted loans	1,406 82
Other assets, viz.:	
Mortgage notes, collateral to debentures	39,267 89
Notes secured by chattel mortgages	11,134 73
Special accounts	9 52
Accrued interest	6,980 09
Live stock account	10,461 67
Total	$188,228 59

LIABILITIES.	
Capital stock paid in	$100.000 00
Surplus fund	5,197 28
Undivided profits	6,543 04
Bills payable	20,500 00
Debenture bonds outstanding (schedule "B")	30,575 00
Interest paid in advance by borrowers	12 19
Certificates of deposit bearing interest	25,000 00
Deposits awaiting investment	401 08
Total	$188,228 59

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	At what rate of interest.
			per cent.
September 9, 1892	$200 00	$100 00	10
September 1, 1892	460 00	235 00	10
September 5, 1892	250 00	125 00	12
September 3, 1892	500 00	375 00	10
August 15, 1892	300 00	175 00	8
December 14, 1892	125 00	56 00	10
August 20, 1892	300 00	135 00	10
October 20, 1892	275 00	140 00	12
November 20, 1892	250 00	135 00	12
July 1, 1891	1,000 00	300 00	10
August 15, 1892	300 00	180 00	10
August 16, 1892	175 00	137 50	10
August 16, 1892	175 00	137 50	10
May 5, 1892	160 00	30 42	12
August 5, 1892	200 00	150 00	10
Tippleman & Riam, 8 notes, none past due, 1892	9,500 00	7,070 00	12
July 7, 1891	750 00	500 00	10
June 13, 1892	100 00	50 00	12
April 4, 1892	500 00	340 82	12
May 16, 1889	A. U. Marvin	195 58	12
Total		$10,567 82	....

When organized? November, 1887.

Under what State laws? Territory of Dakota.

Principal place of business? Redfield, South Dakota.

Authorized amount of capital? $100,000.

Amount of capital subscribed? $100,000.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers of the company? $16,300.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Six per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? South Dakota and western Minnesota, James river valley south of Brown county.

State the number and amount of mortgages with interest six months or more in arrears? Number, fifteen; amount, $10,425.

Total amount loaned to date? $379,285.

Total amount of loans paid? $25,755.

Number and amount of loans extended the past two years? $2,000 (does not include renewals).

Total amount of loans unpaid and outstanding? Guaranteed, $266,020,75. Unguaranteed: $39,984.75 on hand; $37,975 collateral to debentures; $9,550 unguaranteed.

Do you advance interest on unguaranteed loans? No.

How much have you so advanced? None.

Number and amount of mortgages foreclosed in the past year? None.

Total amount in process of foreclosure? None.

Is the company subject to examination by local State officers? Yes.

What officer? State bank examiner.

Amount of securities sold in New York State for the past year? About $40,000.

What are the "other deposits" mentioned in the statements? None.

Total amount of debentures certified? $30,575.

Less amount on hand and with agents? $2,100.

Total liability for debenture bonds as per statement? $28,475.

Trustees for debentures? Long time, "A" and "B," six per cent, Marsh, Merwin & Lemmon, Bridgeport, Conn.; short time, "A," David C. Mott and James W. Ford, Hamilton, N. Y.; short time, "B," Henry C. Funnell, Huntington, N. Y.

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	Year when due.	Secured by Pledge of		Amount of	
			First mortgage loans.	Second mortgage loans.	Security.	Debentures.
A	6	September 1, 1890	$27,250 00	*$780 72	$28,030 72	$26,800 00
B	6	September 1. 1892	5,250 00	....	5,250 00	....
A	5	Miscellaneous.	4.950 00	480 67	5.430 67	3,490 00
B	5	Miscellaneous.	525 00	31 50	556 50	285 00
Totals	......	....	$37,975 00	$1,292 89	$39,267 89	$30,575 60

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.	Market value.
Syndicate Block Company	$2,000 00	$2,000 00	$2,000 00

OFFICERS AND DIRECTORS.

W. W. Taylor	*President.*
S. A. Fitch	*Vice-President.*
C. H. Vinton	*Secretary and Treasurer.*
Dr. J. K. Kutnewsky	*Director.*
C. D. Friberg	*Director.*

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* Fifteen per cent has been subtracted from actual amount of mortgages deposited.

STATE OF SOUTH DAKOTA, } ss.:
COUNTY OF SPINK. }

I, Charles H. Vinton, secretary of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

CHARLES H. VINTON.

Subscribed and sworn to before me, }
this 25th day of January, 1893. }

F. W. HUMPHREY,
Notary Public.

THE OMAHA LOAN AND TRUST COMPANY.

OMAHA, NEBRASKA. ORGANIZED 1885.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$992,805 00
Loans secured by second liens on real estate	74,969 87
Loans on collateral security (schedule "C")	64,050 00
Loans on personal security	17,577 06
Tax sale certificates	8,516 41
Stocks and bonds (see schedule "A")	129,300 00
Real estate	83,992 41
Foreclosure account	63,365 09
Premiums paid	1,925 00
Furniture and fixtures	5,000 00
Current expenses	25 23
Past-due interest remitted for, but not paid to us	24,089 25
Past-due loans remitted for, but not paid to us	39,100 00
Due from sundry persons	4,335 57
Due from banks and bankers	1,046 22
Due on uncompleted loans	2,566 69
Other assets, viz.: Coupons prepaid by company	263 05
Total	$1,512,926 85

LIABILITIES.	
Capital stock paid in	$400,000 00
Surplus fund	50,000 00
Undivided profits	47,932 12
Bills payable	1,925 00
Debenture bonds outstanding (schedule "B")	760,500 00
Interest paid in advance by borrowers	8,332 50
Loans paid, but not remitted for	11,605 00
Certificates of deposit bearing interest	133,980 00
Other deposits	72,524 25
Due to banks and bankers	17,902 38
Other liabilities, viz.: Coupons due, but not yet presented for payment	8,225 60
Total	$1,512,926 85

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	At what rate of interest.
				per cent.
....	December 31, 1889	$700 00	$700 00	6
6...........	January 15, 1892	14,000 00	4,500 00	8
16...........	August 8, 1892	6,125 00	3,000 00	7
18...........	August 6, 1892	1,000 00	300 00	8
27...........	September 29, 1892	....	200 00	8
21...........	August 23, 1892	1,100 00	1,100 00	10
25...........	September 7, 1892	8,000 00	4,000 00	7
31...........	October 11, 1892	125,000 00	45,000 00	6
32...........	April 8, 1892	10,000 00	5,000 00	10
42...........	December 13, 1892	150 00	150 00	8
47...........	January 6, 1893	125 00	100 00	10
Total			$64,050 00	....

When organized? 1885.

Under what State laws? Nebraska.

Principal place of business? Omaha.

Authorized amount of capital? $1,000,000.

Amount of capital subscribed? $500,000.

What is the personal liability of stockholders? $500,000.

How much of its capital stock is owned by the officers of the company? $147,000.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? $45,000: call loan secured by stock of market value of $125,000.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? 1888, ten per cent; 1889, three per cent; 1890, one and one-half per cent; 1891, none; 1892, six per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Eastern Nebraska, western Iowa and northern Missouri.

State the number and amount of mortgages with interest six months or more in arrears? Ninety mortgages; $168,800.

Total amount loaned to date? $8,044,504.42.

Total amount of loans paid? $3,429,649.42.

Number and amount of loans extended the past two years? 355 loans; $555,950 (included in last two items).

Total amount of loans unpaid and outstanding? Guaranteed, $4,614.855.

Number and amount of mortgages foreclosed in the past year? $94,500; fifty-two loans (nineteen settled by defendants.)

Total amount in process of foreclosure? $137,712. This statement of foreclosures includes foreclosures on first mortgage alone, foreclosures on second mortgage alone, and foreclosures on first and second mortgages combined, and covers total amount involved in all cases.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $518,900.

What are the "other deposits" mentioned in the statement? Open accounts.

Total amount of debentures certified? $800,000.

Less amount on hand and with agents? $39,500.

Total liability for debenture bonds as per statement? $760,500.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Nothing.

Trustees for debentures? Boston Safe Deposit and Trust Company, Boston, Mass.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	Year When			Secured by pledge of first mortgage loans.	Amount of	
		Dated.	Due.	Redeemable.		Security.	Debentures.
A	6	1888	1893	....	$50,000 00	$50,000 00	$50,000 00
B	6	1888	1893	....	50,000 00	50,000 00	50,000 00
C	6	1888	1893	....	50,000 00	50,000 00	50,000 00
D	6	1888	1893	....	50,000 00	50,000 00	50,000 00
E	5	1889	1899	1894	50,000 00	50,000 00	50,000 00
F	5	1889	1899	1894	50,000 00	50,000 00	50,000 00
G	5	1889	1899	1894	50,000 00	50,000 00	50,000 00
H	5	1889	1899	1894	50,000 00	50,000 00	50,000 00
I	5	1889	1899	1894	50,000 00	50,000 00	50,000 00
K	6	1889	1899	1894	50,000 00	50,000 00	50,000 00
L	6	1889	1899	1894	50,000 00	50,000 00	50,000 00
M	6	1890	1900	1895	50,000 00	50,000 00	50,000 00
N	6	1890	1900	1895	50,000 00	50,000 00	50,000 00
O	6	1892	1902	1897	50,000 00	50,000 00	50,000 00
P	5	1891	1901	1896	50,000 00	50,000 00	50,000 00
R	6	1892	1902	1897	50,000 00	50,000 00	50,000 00
Totals.....	......	....	....	....	$800,000 00	$800,000 00	$800,000 00

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
Omaha Savings Bank stock......	$5,000 00	$5,000 00	$10,000 00
Omaha Loan and Trust Co. stock.	75,000 00	75,000 00	....
Omaha Loan and Trust Co. Savings Bank stock...............	49,300 00	49,300 00	....
Total	$129,300 00	$129,300 00	$10,000 00

OFFICERS AND DIRECTORS.

A. U. Wyman	*President.*
J. J. Brown	*Vice-President.*
W. T. Wyman	*Secretary and Treasurer.*
Geo. B. Lake	*Counsel.*
E. W. Nash	*Director.*
Guy C. Barton	*Director.*
Thos. L. Kimball	*Director.*
J. H. Millard	*Director.*

STATE OF NEBRASKA, } *ss.:*
County of Douglas. }

I, W. T. Wyman, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

W. T. WYMAN,
Treasurer.

Subscribed and sworn to before me, }
this 13th day of January, 1893. }

H. C. Weeden,
Notary Public.

SECURITY LOAN AND TRUST COMPANY.

Des Moines, Iowa. Organized June, 1882.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$1,289,420 82
Loans secured by second liens on real estate	29,221 55
Earned commission on debenture loans *	None.
Loans on collateral security (schedule "C")	45,050 65
Tax sale certificates	2,279 84
Stocks and bonds (see schedule "A")	55,226 53
Real estate	4,728 06
Foreclosure account	223 77
Furniture and fixtures	1,359 67
Past-due interest remitted for, but not paid to us	1,818 97
Past-due loans remitted for, but not paid to us	1,100 00
Due from sundry persons	46 90
Due from banks and bankers	44,156 43
Cash	1,528 49
Other assets, viz.:	
Land contracts	483 84
Securities sold and in transit	9,353 85
Total	$1,485,999 37

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* This company does not enter on its books as an asset any interest on loans securing debentures until collected.

LIABILITIES.	January 1, 1893.
Capital stock paid in	$182,835 46
Surplus fund	29,940 07
Guaranty fund	4,870 26
Undivided profits	15,794 22
Debenture bonds outstanding (schedule "B")	1,077,053 47
Interest paid in advance by borrowers	1,929 09
Loans paid, but not remitted for	8,375 00
Certificates of deposit bearing interest	31,917 57
Other deposits	22,133 42
Other liabilities, viz.:	
Registered notes	63,599 25
Interest on debentures due, but uncalled for	8,318 61
Demand certificates	27,053 95
Treasurer's checks outstanding	12,179 00
Total	$1,485,999 37

When organized? June, 1882.

Under what State laws? Iowa.

Principal place of business? Des Moines, Iowa.

Authorized amount of capital? $200,000.

Amount of capital subscribed? $200,000.

What is the personal liability of stockholders? $200,000, including capital stock.

How much of its capital stock is owned by the officers of the company? 335 shares.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None, unless on approved real estate security.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Eight per cent per annum.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? An examination is made in each case before loan is made, either by salaried employé or one appointed by the company.

State the sections of country in which loans are made, giving the principal counties? Most of the counties in central and western Iowa; Fillmore, Madison, Cedar, Wayne, Dixon, Johnson and Douglass counties in Nebraska; the southeast corner of South Dakota and southern Minnesota.

State the number and amount of mortgages with interest six months or more in arrears? Four; $5,950 principal, $400.50 interest.

Total amount loaned to date? $4,409,158.16.

Total amount of loans paid? $1,520,112.34.

Number and amount of loans extended the past two years? $273,370, after re-examination.

Total amount of loans unpaid and outstanding? On hand, $1,289,420.82; guaranteed, $1,118,245, sold; unguaranteed, $30,600, sold.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? None.

Number and amount of mortgages foreclosed in the past year? $2,125, three mortgages; foreclosure was commenced on one other loan in behalf of another party by us as trustee, all interest being paid to us.

Total amount in process of foreclosure? $2,125.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $65,600.

What are the "other deposits" mentioned in the statements? Deposits subject to check.

Total amount of debentures certified? $1,089,053.47.

Less amount on hand and with agents? $12,000.

Total liability for debenture bonds as per statement? $1,077,053.47.

What do you estimate will be lost to the company on outstanding mortgages and debenture securities? Nothing.

Trustees for debentures? Thomas S. Wright, Martin Tuttle, E. H. Conger; after February first the Polk County Savings bank of Des Moines, Iowa, will act as our trustee.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			Secured by pledge of first mortgage loans.	AMOUNT OF	
		Dated.	Due.	Redeemable.		Security.	Debentures.
A	6	1883	1893	....	$7,525 00	$7,525 00	$5,800 00
I	6	1885	1895	1888	11,800 00	11,800 00	11,130 00
O	6	1886	1896	1891	47,230 00	47,230 00	44,905 00
P	6	1886	1896 1893	....	2,200 00	2,200 00	2,000 00
R	6	1886	1893	....	13,650 00	13,650 00	13,000 00
T	6	1887	1897	....	550 00	550 00	500 00
20	6	1887	1894 1897	....	63,990 00	63,990 00	60,872 47
21	6	1887	1897	1892	26,525 00	26,525 00	25,000 00
22	6	1887	1893	1891	14,600 00	14,600 00	11,500 00
23	6	1888	1893	1891	52,580 00	52,580 00	50,000 00
24	6	1888	1893	1891	50,500 00	50,500 00	47,000 00
25	6	1888	1898	1893	26,000 00	26,000 00	24,650 00
26	6	1888	1894	1892	16,050 00	16,050 00	15,200 00
27	6	1888	1894	1892	9,500 00	9,500 00	9,000 00
28	6	1888	1898	1893	50,610 00	50,610 00	47,900 00
29	6	1889	1894	1892	26,175 00	26,175 00	24,346 00
30	6	1889	1899	1894	20,925 00	20,925 00	19,550 00
31	6	1889	1894	....	106,883 11	106,883 11	100,000 00
32	6	1889	1895	1894	105,135 00	105,135 00	100,000 00
33	6	1889	1895	1894	108,067 50	108,067 50	100,000 00
34	6	1890	1900	1895	105,120 21	105,120 21	100,000 00
36	6	1890	1895	....	31,515 00	31,515 00	30,000 00
37	6	1891	1901	1896	12,700 00	12,700 00	12,000 00
38	6	1891	1898	1894	52,625 00	52,625 00	50,000 00
39	6	1891	1897	1894	38,771 00	38,771 00	36,700 00
40	6	1891	1901	1896	14,185 00	14,185 00	13,500 00
42	6	1891	1902	1897	2,100 00	2,100 00	2,000 00
43	6	1892	1902	1897	6,100 00	6,100 00	5,750 00
44	6	1892	1902	1897	52,820 00	52,820 00	50,000 00
45	5½ 6	1892	1902	1897	5,680 00	5,680 00	5,300 00
46	6	1892	1897	1895	22,650 00	22,650 00	21,750 00
47	6	1892	1898	1896	52,475 00	52,475 00	49,700 00
							$1,089,053 47
Less on hand and with agents							12,000 00
Outstanding as per statement							$1,077,053 47

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.
School warrants, ind. dist. of Center........	$328 00	$328 00	*......
School warrants, ind. dist. of Tyndall.......	1,000 00	1,000 00	*......
School warrants, ind. dist. of Camp	500 00	500 00	*......
Des Moines city warrants..................	69 05	69 05	*......
School bonds, ind. dist. of Laurens	1,100 00	1,100 00	*......
School bonds, ind. dist. of Athens	600 00	600 00	*......
School bonds, ind. dist. of Poe.............	600 00	600 00	*......
School bonds, ind. dist. of Center	1,500 00	1,500 00	*......
School bonds, ind. dist. of Manilla	1,500 00	1,500 00	*......
City of Des Moines assessment certificates..	47,542 76	47,542 76	*......
City of Adel assessment certificates	486 72	486 72	*......
Total	$55,226 53	$55,226 53	....

OFFICERS AND DIRECTORS.

GEORGE G. WRIGHT	*President.*
R. T. WELLSLAGER	*Vice-President.*
SAMUEL A. MERRILL	*Treasurer.*
D. G. EDMUNDSON	*Secretary.*
H. W. WEBER	*Assistant Secretary.*
FAYETTE MEEK	*Director.*
J. H. WINDSOR	*Director.*
J. C. CUMMINS	*Director.*
S. B. TUTTLE	*Director.*

STATE OF IOWA, } *ss.:*
COUNTY OF POLK. }

I, S. A. Merrill, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

S. A. MERRILL,
Treasurer.

Subscribed and sworn to before me, }
this 14th day of January, 1893. }

W. A. CRESWELL,
Notary Public in and for Polk county, Iowa.

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* Par and accrued interest.

SECURITY TRUST COMPANY.

Nashua, New Hampshire. Organized August 7, 1889.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$515,930 00
Loans on collateral security (schedule "C")	14,386 00
Loans on personal security	262,500 69
Stocks and bonds (see schedule "A")	49,000 00
Real estate	29,558 81
Past-due interest remitted for, but not paid to us	3,078 38
Past-due loans remitted for, but not paid to us	8,865 00
Due from branch offices and agents	5,994 80
Due from banks and bankers	43,095 75
Cash	9,576 21
Other assets, viz.:	
Debenture interest	115 50
Safety deposit vault	5,000 00
Total	$947,101 14
LIABILITIES.	
Capital stock paid in	$200,000 00
Undivided profits	20,117 24
Debenture bonds outstanding (schedule "B")	199,800 00
Dividends unpaid, due January 1, 1893	8,000 00
Loans paid, but not remitted for	39,218 40
Certificates of deposit bearing interest	229,545 72
Other deposits, check	236,429 77
Other liabilities, viz.:	
Debenture interest	7,501 09
Treasurer's checks outstanding	6,488 92
Total	$947,101 14

SCHEDULE "C."

Loans on Collateral Securities.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	At what rate of interest.
				Per cent.
5414	October 7, 1891	$4,000 00	$2,000 00	6
15	October 7, 1891	4,000 00	2,000 00	6
16	October 7, 1891	4,000 00	2,000 00	6
19	November 15, 1892	1,500 00	1,386 00	7
55	December 28, 1892	1,200 00	1,000 00	7
57	December 6, 1892	2,500 00	2,000 00	7
59	December 6, 1892	2,500 00	2,000 00	7
63	December 17, 1892	3,500 00	2,000 00	7

When organized? August 7, 1889.

Under what State laws? New Hampshire.

Principal place of business? Nashua, N. H.

Authorized amount of capital? $500,000.

Amount of capital subscribed? $200,000.

What is the personal liability of stockholders? None.

How much of its capital stock is owned by the officers of the company? $141,700.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? $500.

Total amount of its capital stock held by the company as collateral. None.

Rates of dividends for past five years? Eight per cent since organization.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Grand Forks, Walsh and Pembina in North Dakota, and Polk county, Minnesota.

State the number and amount of mortgages with interest six months or more in arrears? None.

Total amount loaned to date? $2,239,735.

Total amount of loans paid? $630,015.

Number and amount of loans extended the past two years? None.

Total amount of loans unpaid and outstanding? Guaranteed, $841,975; unguaranteed, $767,745.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? None.

Number and amount of mortgages foreclosed in the past year? Nine; $5,025.

Total amount in process of foreclosure? None.

Is the company subject to examination by local State officers? Yes.

What officer? New Hampshire bank commissioners.

Amount of securities sold in New York State for the past year? $48,960.

What are the "other deposits" mentioned in the statements? Check.

Total amount of debentures certified? $211,500.

Less amount on hand and with agents? $11,700.

Total liability for debenture bonds as per statement? $199,800.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? We look for no material loss.

Trustees for debentures? American Loan and Trust Company, Boston, Mass.

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	Year When			Secured by pledge of first mortgage loans.	Amount of	
		Dated.	Due.	Redeemable.		Security.	Debentures.
A	6½	1888	1898	1895	$50,715 00	$50,715 00	$50,000 00
B	7	1888	1894	1891	50,550 00	50,550 00	50,000 00
C	6½	1889	1899	1896	101,620 00	101,620 00	63,650 00
C	6	1890	1900	1895			36,350 00
D	6	1891	1901	1896	12,100 00	12,100 00	11,500 00
Totals	....	......	......	....	$214,985 00	$214,985 00	$211,500 00

SCHEDULE "A."

Description of Stocks and Bonds.

DESCRIPTION.	Cost.	Par value.	Market value.
Booker Live Stock Co., 490 shares	$49,000 00	$49,000 00	$49,000 00

OFFICERS AND DIRECTORS.

David A. Gregg	*President.*
F. E. Anderson	*Vice-President.*
Geo. B. Clifford	*Secretary.*
F. S. Sargent	*Treasurer.*
J. E. Clifford	*Assistant Treasurer.*
L. C. Pattee	*Director.*
C. H. Everest	*Director.*
E. H. Wason	*Director.*
E. O. Blunt	*Director.*
G. B. Stevens	*Director.*
Francis Cogin	*Director.*
L. F. Thurber	*Director.*
Elbert Wheeler	*Director.*
D. E. Proctor	*Director.*
Ira Cross	*Director.*
G. E. Anderson	*Director.*
G. A. Rollins	*Director.*
Alfred Cooley	*Director.*
H. C. Phaneuf	*Director.*
F. W. Maynard	*Director.*
Jos. Flather	*Director.*
B. F. Prescott	*Director.*
Samuel Barrett	*Director.*

STATE OF NEW HAMPSHIRE, } *ss.:*
COUNTY OF HILLSBOROUGH. }

I, F. S. Sargent, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

F. S. SARGENT,
Treasurer.

Subscribed and sworn to before me, }
this 23d day of January, 1893. }

J. B. TILLOTSON,
Justice of the Peace.

SUPERIOR AND DULUTH LOAN AND DEBENTURE COMPANY.

WEST SUPERIOR, WISCONSIN. ORGANIZED MARCH 6, 1889.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$478,284 00
Loans on collateral security (schedule "C")	189,800 00
Loans on personal security	30,000 00
Foreclosure account (first mortgage loans in process of forecl're)	4,100 00
Premiums paid on debenture bonds sold; written off in proportionate amounts as interest on bonds matures (*a*)	6,850 00
Furniture and fixtures	275 60
Current expenses (since July 31, 1892)	5,558 73
Due from sundry persons	73 90
Due from banks and bankers	11,878 06
Cash (petty cash)	15 00
Other assets, viz.:	
Interest due and unpaid	644 00
Accrued interest to October 31, 1892 (*b*)	4,635 56
Mortgages (first) sold and guaranteed	194,000 00
Due from stockholders on subscriptions to capital stock payable on or before January 31, 1893	32,520 00
Total	$958,634 85
LIABILITIES.	
Capital stock paid in	$467,480 00
Surplus fund	16,000 00
Undivided profits	24,816 90

(*a*) Commissions paid to agents on sale of debentures; the amount of which is charged to this account and subsequently written off to "interest paid" as semi-annual interest on debentures falls due, so that the account on any "series" will close at the maturity of such "series."

(*b*) This item is the balance of accrued interest on all loans (at interest) to the quarter ending October 31, 1892; the amount decreasing as "interest" falls due, at which time the account receives credit for its proportional amount of such interest.

Debenture bonds outstanding (schedule "B")	$155,000 00
Certificates of deposit bearing interest	32,480 72
Other deposits	16,337 23
Due to branch offices and agents	20,000 00
Other liabilities viz.:	
Liability on guaranteed mortgages sold	194,000 00
Capital subscribed and not yet paid	32,520 00
Total	$958,634 85

SCHEDULE "C."

Loans on Collateral Securities.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	At what rate of interest.
				Per cent.
31 C	February 3, 1891	$9,600 00	$8,000 00	8
31 C	January 23, 1892	30,000 00	*25,000 00	8
41 C	September 21, 1892	90,000 00	*25,000 00	8
42 C	September 22, 1892	12,500 00	10,000 00	9
44 C	October 5, 1892	3,625 00	2,500 00	8
46 C	July 1, 1892	147,700 00	60,000 00	8
50 C	December 17, 1892	25,000 00	*20,000 00	8
51 C	December 29, 1892	435 00	300 00	10
52 C	December 30, 1892	41,026 66	20,000 00	8
53 C	December 30, 1892	3,625 00	3,000 00	8
54 C	December 31, 1892	19,000 00	16,000 00	8
Total		$382,511 66	$189,800 00	....

When organized? March 6, 1889.

Under what State laws? Wisconsin.

Principal place of business? West Superior, Wisconsin.

Authorized amount of capital? $500,000.

Amount of capital subscribed? $500,000.

What is the personal liability of stockholders? None over amount of capital.

How much of its capital stock is owned by the officers of the company? $38,000 (380 shares).

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? $118,500 ($70,000 collateral and $48,500 first mortgage).

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Eleven and eighty-two hundredths per cent February 1, 1890, and eight per cent per annum since, semi-annually, on February first and August first.

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* Director.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes; but it takes three directors to approve each loan.

State the sections of country in which loans are made, giving the principal counties? Douglas county, Wisconsin, and St. Louis county, Minnesota.

State the number and amount of mortgages with interest six months or more in arrears? Two mortgages; $3,000 and $1,100.

Total amount loaned to date? $2,070,184.16.

Total amount of loans paid? $1,085,000.16.

Number and amount of loans extended the past two years? $57,625 ($45,000 since paid).

Total amount of loans sold and unpaid and outstanding? Guaranteed, $194,000; unguaranteed, $89,000 (as far as we know).

Do you advance interest on unguaranteed loans? Not as a practice.

How much have you so advanced? $120; paid to us a few days after.

Number and amount of mortgages foreclosed in the past year? None; $5,825 of mortgages have had foreclosure proceedings commenced, $1,725 of which has been paid; $4,100 still in process of foreclosure since organization.

Total amount in process of foreclosure? $4,100.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $228,500.

What are the "other deposits" mentioned in the statements? Rentals collected, $128.33; coupons paid but not presented, $63.85; special deposit subject to call, $873.72; loans paid, but checks not cleared, $15,176.67; due to abstracter, register and attorney, $94.66.

Total amount of debentures certified? $200,000.

Less amount on hand and with agents? $45,000.

Total liability for debenture bonds as per statement? $155,000.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Not a cent.

Trustees for debentures? Atlantic Trust Company, New York. Debentures are issued in series of $100,000; series "A" and "C" certified.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			Secured by pledge of first mortgage loans.	AMOUNT OF	
		Dated.	Due.	Redeemable.		Security.	Debentures.
A	6	Feb. 1, 1891	Feb. 1, 1901	Maturity ...	$110,000 00	$110,000 00	$100,000 00
B*	....	....	....	....	....	....	....
C	6	June 1, 1892	June 1, 1902	Maturity ...	110,000 00	110,000 00	100,000 00

* Not issued and not certified.

OFFICERS AND DIRECTORS.

R. L. BELKNAP	*President.*
WM. B. BANKS	*Vice-President.*
WM. B. BANKS	*Treasurer.*
F. W. DOWNER, JR.	*Secretary.*
JAMES ROOSEVELT	*Director.*
F. H. WEEKS	*Director.*
WM. DURYEA	*Director.*
WARNER VAN NORDEN	*Director.*
R. J. WEMYSS	*Director.*
FRANK OSTRANDER	*Director.*
WM. R. FANNING	*Director.*

STATE OF WISCONSIN, } *ss.:*
COUNTY OF DOUGLAS. }

I, Wm. B. Banks, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

WM. B. BANKS.

Subscribed and sworn to before me, }
this fifth day of January, 1893. }

P. G. STRATTON,
Notary Public, Douglas county, Wis.

THE TEXAS LOAN AGENCY.

CORSICANA, TEXAS. ORGANIZED DECEMBER 11, 1884.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$1,233,351 33
Loans secured by second liens on real estate	7,081 00
Earned commission on debenture loans	38,500 00
Stocks and bonds (see schedule "A")	105,700 00
Office building	9,200 00
Other real estate	223,137 57
Furniture and fixtures	1,356 15
Past-due interest remitted for, but not paid to us, including coupons on loans held	24,583 59
Past-due loans remitted for, but not paid to us, $51,845.85, included in No. 1.	
Due from sundry persons	22,527 15
Due from banks and bankers	121,889 22
Cash in office	325 55
Other assets, viz.:	
Notes, vendor's lien, mechanics' lien	698,678 86
Commission mortgage notes	68,003 42
Total	$2,554,333 84

LIABILITIES.	January 1, 1893
Capital stock paid in	$300,000 00
Surplus fund	100,000 00
Undivided profits	9,972 00
Debenture bonds outstanding (schedule "B")	1,906,143 84
Interest paid in advance by borrowers	4,419 76
Loans paid, but not remitted for	400 00
Due borrowers on loans made	3,562 33
Certificates of deposit bearing interest	79,088 75
Deposits awaiting investment	68,890 14
Other deposits and credits	47,197 23
Other liabilities, viz.:	
Unpresented coupons	8,321 29
Partial payments on loans and notes, and loans and notes assumed	26,338 50
Total	$2,554,333 84

When organized? December 11, 1884.

Under what State laws? Texas.

Principal place of business? Corsicana, Texas.

Authorized amount of capital? $400,000.

Amount of capital subscribed? $300,000.

What is the personal liability of stockholders? Nothing.

How much of its capital stock is owned by the officers of the company? $51,500.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? $97,683.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Four to fourteen per cent.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? North, central and northwest Texas, Navarro, Hill, Ellis, Dallas, Johnson, etc.

State the number and amount of mortgages with interest six months or more in arrears? About $125,000.

Total amount loaned to date? $5,882,115.82.

Total amount of loans and notes paid? $3,368,621.28.

Number and amount of loans and notes extended and renewed the past two years? Some $225,000.

Total amount of loans and notes unpaid and outstanding? Guaranteed, $569,383.35; unguaranteed, $5,000 sold, $1,939,111.19 held by company.

Number and amount of mortgages foreclosed in the past year? $43,815.95.

Total amount in process of foreclosure? $65,000.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $400,000 (estimate).

What are the "other deposits" mentioned in the statement? Sundry deposits and credits.

Total amount of debentures certified? $1,906,143.84.

Total liability for debenture bonds as per statement? $1,906,143.84.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Have made no estimate; think amount will be small.

Trustees for debentures? City National Bank for series O to Z and 27 to 51; Atlantic Trust Co. for series 3 to 17.

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN		SECURED BY PLEDGE OF		AMOUNT OF	
		Dated.	Due.	First mortgage loans.	Real estate.	Security.	Debentures.
O	7	1887	1892	....	....	....	$400 00
Q	7	1888	1892	....	....	....	500 00
R	7	1888	1893	$15,740 50	....	$15,740 50	14,905 50
S	7	1888	1893	12,300 00	$36,490 54	48,790 54	30,736 54
T, U, V	7	1888	1893	108,824 69	....	108,824 69	103,170 80
W	7	1888	1893	17,093 45	52,153 47	69,246 92	42,172 00
X	7	1888	1893	34,521 65	....	34,521 65	32,934 00
Y	7	1889	1894	33,407 30	....	33,407 30	31,807 00
Z	7	1889	1894	33,782 49	....	33,782 49	32,165 00
27	7	1889	1894	32,142 20	....	32,142 20	25,410 00
28	7	1889	1894	27,043 50	11,069 58	38,113 08	33,175 00
29	7	1889	1894	36,206 95	....	36,206 95	34,597 00
30, 31	7	1889	1894	62,325 85	....	62,325 85	58,797 00
32, 33	7	1889	1894	85,521 60	....	85,521 60	81,444 00
34	7	1889 & '90	1895	45,155 40	....	45,155 40	42,790 00
35	7	1890	1895	34,543 00	27,327 62	61,870 62	43,270 00
36	6½ & 7	1890	1895	27,810 00	....	27,810 00	26,495 00
37	6½	1890	1895	25,419 70	....	25,419 70	24,100 00
38, 39	6½	1890	1895	58,494 00	....	58,494 00	50,985 00
40, 41, 42	6½	1891	1896	101,711 91	....	101,711 91	94,960 00
43	6½	1892	1893-7	33,523 64	29,061 13	62,584 77	47,855 00
44	6½ & 7	1892	1893-7	49,765 60	....	49,765 60	49,500 00
45, 46, 47	6½ & 7	1892	1893-7	150,562 46	....	150,562 46	149,865 00
48	6½ & 7	1892	1893-7	35,463 42	37,094 50	72,557 92	50,100 00
49	6½ & 7	1892	1893-7	50,076 90	....	50,076 90	49,960 00
50	6½ & 7	1892	1893-7	50,940 28	....	50,940 28	49,950 00
51	6½ & 7	1892	1893-8	17,311 25	....	17,311 25	17,200 00
3, 4	7	1888	1893	105,000 00	....	105,000 00	100,000 00
5, 6, 7, 8	7	1889	1894	210,091 00	....	210,091 00	200,000 00
9, 10, 11	7	1889	1894	157,547 50	....	157,547 50	150,000 00
12, 13	6½ & 7	1890	1895	105,105 00	....	105,105 00	100,000 00
14	6	1890	1900	15,250 00	....	15,250 00	14,500 00
15	6½	1891	1896	52,488 00	....	52,488 00	49,950 00
16	6½	1891	1896	42,250 00	....	42,250 00	40,250 00
17	6 & 7	1892	1897	33,850 00	....	33,850 00	32,200 00
Totals	......	....	....	$1,901,269 24	$193,196 84	$2,094,466 08	$1,906,143 84

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.
Texas Investment Company	$59,500 00	$59,500 00
City National Bank, Corsicana	16,500 00	16,500 00
First National Bank, Gatesville	12,000 00	12,000 00
Ennis Hotel Company	7,700 00	7,700 00
American Building and Loan Association	10,000 00	10,000 00

OFFICERS AND DIRECTORS.

W. R. BRIGHT	*President.*
S. D. CURTIS	*First Vice-President.*
ABM. S. UNDERHILL	*Second Vice-President.*
R. O. ELLIOTT	*Secretary and Treasurer.*
J. H. WOODS	*Assistant Secretary and Treasurer.*
C. B. BIGELOW	*Director.*
R. C. OWEN	*Director.*
ISAAC FORSYTHE	*Director.*
A. M. WARDWELL	*Director.*
GEORGE C. F. WILLIAMS	*Director.*
JAMES ELWELL	*Director.*

STATE OF TEXAS,
COUNTY OF NAVARRO. } ss.:

I, W. R. Bright, president of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

W. R. BRIGHT.

Subscribed and sworn to before me,
this 21st day of January, 1893.

S. M. KERR,
Notary Public, Navarro county, Texas.

THE R. J. WADDELL INVESTMENT COMPANY.

OTTAWA, KANSAS. ORGANIZED 1888.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$1,077,236 85
Loans secured by second liens on real estate	40,882 93
Earned commission on debenture loans	3,000 00
Loans on personal security	3,698 39

Tax sale certificates	$1,194 88
Real estate (cost $21,000)	10,000 00
Furniture and fixtures	1,250 00
Past-due interest remitted for, but not paid to us	2,964 99
Due from sundry persons	263 67
Due from banks and bankers	47,118 98
Cash	3,460 64
Other assets, viz.: Due from clients in collection department*	3,010 06
Total	$1,194,081 39

LIABILITIES.

Capital stock paid in	$100,000 00
Surplus fund	20,000 00
Undivided profits	2,889 00
Debenture bonds outstanding (schedule "B")	1,015,127 00
Interest paid in advance by borrowers	6,323 75
Certificates of deposit bearing interest	25,850 00
Deposits awaiting investment	20,204 82
Other deposits	1,080 86
Other liabilities, viz.: Due to clients in collection department*	2,605 96
Total	$1,194,081 39

When organized? 1888.

Under what State laws? Kansas.

Principal place of business? Ottawa, Kansas.

Authorized amount of capital? $250,000.

Amount of capital subscribed? $100,000.

What is the personal liability of stockholders? $100,000 beyond capital paid in.

How much of its capital stock is owned by the officers of the company? $62,500.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Eight per cent until January 1, 1891; no dividends since.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes, as a rule.

State the sections of country in which loans are made, giving the principal counties? Eastern Kansas; Franklin, Anderson, Woodson, Wilson, Montgomery, Neosho, Osage, Sumner, Cowley, Crawford and Pueblo, Colorado.

State the number and amount of mortgages with interest six months or more in arrears? Twenty-six; $35,030.

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* We have a department for the collection or foreclosure of defaulted loans of failed companies. The accounts due us in this department are all secured.

Total amount loaned to date? $4,385,380.

Total amount of loans paid? $2,498,794.

Number and amount of loans extended the past two years? No record kept.

Total amount of loans unpaid and outstanding? Guaranteed, $414,750; unguaranteed, $1,471,836.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? $2,126.49.

Number and amount of mortgages foreclosed in the past year? Ten; $5,500.

Total amount in process of foreclosure? Nine; $6,850.

Is the company subject to examination by local State officers? No.

Amount of securities sold in New York State for the past year? $243,152 (estimated).

What are the "other deposits" mentioned in the statements? Sundry individual accounts.

Total amount of debentures certified? $1,018,127.

Less amount on hand and with agents? $3,000.

Total liability for debenture bonds as per statement? $1,015,127.

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities? Losses since founding of business, twenty-one years ago, about $15,000; no reason to estimate greater ratio for the future.

Trustees for debentures? Series One, E. A. Skinner and C. P. Skinner; series One A, B. W. Johnson and Ledyard Cogswell; balance, First National Bank of Ottawa, Kansas.

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	Year When			Secured by Pledge of		Amount of	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mo'tg'e loans.	Security.	Debentures.
			Years.	Years.				
One........	5 & 6	Var.	5	....	$172,411 25	$700 00	$173.111 25	$172.677 00
One A.....	6	1887	10	After 5	52,750 00	....	52,750 00	50.000 00
B..........	6	1887	10	5	82,210 00	....	82,210 00	82,200 00
C..........	6	1888	10	5	92,204 00	....	92.204 00	89,900 00
D..........	6	1888	10	5	100,160 00	....	100,160 00	97,000 00
E..........	6	1888–89	10	5	102.275 00	....	102,275 00	99,000 00
F..........	6	1889	10	5	99,700 00	....	99,700 00	96,150 00
G..........	6	1889–90	10	5	101,455 00	....	101,455 00	98,100 00
H..........	6	1890	10	5	101,900 00	....	101,900 00	98,500 00
I..........	6	1890–92	10	5	102,540 00	....	102,540 00	99.000 00
K..........	6	1892	10	5	41,750 00	....	41,750 00	35,600 00
Totals..	......	....	....	....	$1,049,355 25	$700 00	$1,050,055 25	$1,018,127 00

OFFICERS AND DIRECTORS.

R. J. Waddell..........................	*President.*
John D. Parsons, Jr......................	*Vice-President.*
W. C. Allen............................	*Secretary and Treasurer.*
G. H. Embry	*Director.*
John Haskell Butler....................	*Director.*

STATE OF KANSAS, } ss.:
County of Franklin. }

I, W. C. Allen, treasurer of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

W. C. ALLEN.

Subscribed and sworn to before me, }
this 13th day of January, 1893. }

C. N. Brown.
Notary Public.

My commission expires November 9, 1894.

THE J. B. WATKINS LAND MORTGAGE COMPANY.

Lawrence, Kansas. Organized 1870.

ASSETS.	January 1, 1893.
Loans secured by first liens on real estate	$4,396,134 60
Loans secured by second liens on real estate	110,789 68
Earned commission on debenture loans	178,308 57
Loans on personal security	10,644 27
Office building	100,993 13
Other real estate	2,082,619 74
Foreclosure account	10,229 28
Furniture and fixtures	4,418 15
Past-due interest remitted for, but not paid to us	117,663 84
Past-due loans remitted for, but not paid to us	126,300 00
Due from sundry persons	2,130 34
Due from banks and bankers	86,127 34
Cash	691 46
Other assets, viz.:	
Taxes and county warrants	4,663 75
Live stock and movable property	1,769 55
Total	$7,233,483 70

LIABILITIES.	
Capital stock paid in	$750,000 00
Surplus fund	596,065 86
Bills payable	85,000 00
Debenture bonds outstanding (schedule "B.")	4,088,975 92
Loans paid, but not remitted for	5,700 00
Trust savings deposits, savings certificates	2,990 00
Certificates of deposit bearing interest	100,198 66
Deposits awaiting investment	562,500 00

Other deposits at a low rate of interest	$957,190 00
Due to branch offices and agents	25,611 48
Other liabilities, viz.:	
Due J. B. Watkins, book account, no interest	58,221 88
Due sundry persons	1,029 90
Total	$7,233,483 70

When organized? 1870; incorporated August 8, 1883.

Under what State laws? Colorado.

Principal place of business? Lawrence, Kansas.

Authorized amount of capital? $750,000.

Amount of capital subscribed? $750,000.

What is the personal liability of stockholders? None beyond face of stock.

How much of its capital stock is owned by the officers of the company? $670,700.

How much, if any, of the stock owned by its officers is pledged to the company as collateral? None.

Amount of loans due from directors? None.

Total amount of its capital stock held by the company as collateral? None.

Rates of dividends for past five years? Five per cent semi-annual.

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower? Yes.

State the sections of country in which loans are made, giving the principal counties? Northeastern Texas; north, south and eastern Kansas, western Missouri, and Louisiana.

State the number and amount of mortgages with interest six months or more in arrears? Ninety-four; $197,500 on land not in foreclosure.

Total amount loaned to date? $18,482,826.

Total amount of loans paid? $12,466,695.

Number and amount of loans extended the past two years? 154; $92,050.

Total amount of loans unpaid and outstanding? Guaranteed, $504,900; unguaranteed, $1,115,096.40; owned by company, principally debenture securities, $4,396,134.60.

Do you advance interest on unguaranteed loans? Yes.

How much have you so advanced? About $10,000.

Number and amount of mortgages foreclosed in the past year? 193; $214,600.

Total amount in process of foreclosure? $182,900.

Is the company subject to examination by local State officers? Annual statement required.

Amount of securities sold in New York State for the past year? $275,100.

What are the "other deposits" mentioned in the statements? Five year mortgages on company's lands.

Total amount of debentures certified? $4,271,909.13.

Less amount on hand and with agents? $182,933.21.

Total liability for debenture bonds as per statement? $4,088,975.92.

Trustees for debentures? Farmers' Loan and Trust Company, New York city.

SCHEDULE "B."

Statement of Debenture Bonds Certified to by Trustees.

SERIES.	Rate per cent.	YEAR WHEN		Secured by pledge of first mortgage loans.*	AMOUNT OF	
		Dated.	Due.		Security.	Debentures.
I	5	Jan. 1888	1893	....	$100,000 00	$100.000 00
J	6	1888	1893	....	99,000 00	99,000 00
K	5	1888	1893	....	100,055 00	100,000 00
L	6	1888	1893	....	100,068 04	100,000 00
M	5	1888	1893	....	100,550 00	100.000 00
N	6	1888	1893	....	100,178 33	100,000 00
O	5	1888	1893	....	100,253 00	100,000 00
P	6	1888	1893	....	100,031 65	100,000 00
Q	5	1888	1893	....	100,120 87	100,000 00
R	6	1888	1893	....	100.078 33	100,000 00
S	5	1889	1894	....	100,058 33	100,000 00
T	6	1889	1894	....	100,198 08	100.000 00
U	6	1889	1894	....	100,007 16	100,000 00
V	5	1889	1894	....	100,029 99	99,999 94
W	6	1889	1894	....	100,368 20	100,000 00
X	5	1889	1894	....	100,030 00	99,999 96
Y	6	1889	1894	....	100,061 65	100,000 00
Z	5	1889	1894	....	100,112 16	99,999 90
27	6	1889	1894	....	100,075 00	100,000 00
28	5	1889	1894	....	100,137 50	99,999 97
29	5	1890	1895	....	100,927 00	99,999 98
30	6	1890	1895	....	100.073 00	100,000 00
31	6	1890	1895	....	100,299 00	100,000 00
32	5	1890	1895	....	100.115 00	99,999 96
33	6	1890	1895	....	100,050 00	100,000 00
34	5	1890	1895	....	100,020 00	100.000 15
35	6	1890	1895	....	100,033 50	100,000 00
36	6	1890	1895	....	100.000 00	100,000 00
37	5	1890	1895	....	100.000 00	100.000 15
38	6	1891	1896	....	100.030 00	100,000 00
39	6	1891	1896	....	100,025 00	100,000 00
40	5	1891	1896	....	100,000 00	100,000 08
41	5	1891	1896	....	100,049 00	99,999 93
42	5	1891	1896	....	100,074 03	99,999 93
43	6	1891	1896	....	100.011 00	100.000 00
44	6	1892	1897	....	100,063 00	100.000 00
45	5	1892	1897	....	100,040 00	99,999 98
46	6	1892	1897	....	100.080 00	100,000 00
47	6	1892	1897	....	100,050 00	100,000 00
48	5	1892	1897	....	100,027 00	99,999 94
49	5	1892	1897	....	76,180 25	75,845 43
50	6	1892	1897	....	76,496 00	76.400 00
51	5	1892	1897	....	72,700 00	72,463 83
52	6	1892	1897	....	48,275 00	48,200 00
Totals	......	....	......	....	$4,277,031 07	$4,271,909 13

OFFICERS AND DIRECTORS.

J. B. Watkins	*President.*
D. M. Spankle	*Secretary.*
T. C. Green	*Cashier.*
Henry Dickinson	*Manager N. Y. Office.*
M. J. Dart	*Manager Dallas Office, Texas.*
H. G. Chalkley	*Manager London Office.*
A. L. Stanton, Lawrence, Kans	*Director.*

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* All first mortgages.

STATE OF KANSAS, } *ss.*:
COUNTY OF DOUGLAS. }

I, T. C. Green, cashier of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

T. C. GREEN,
Cashier.

Subscribed and sworn to before me, }
this 12th day of January, 1893. }

A. E. SAXEY,
Notary Public.

My commission expires April 10, 1894.

COMPARATIVE STATEMENT OF ASSETS

NAMES OF COMPANIES.	1. Loans secured by first liens on real estate
Belcher (W. C.) Land Mortgage Company	$265,048
Bunnell and Eno Investment Company	657,315
Chamberlin Investment Company	369,193
Colorado Loan and Mortgage Company	12,990
Colorado Securities Company	86,737
Darrow Investment Company	16,346
Des Moines Loan and Trust Company	53,523
Equitable Mortgage Company	12,308,880
Fidelity Loan and Trust Company	4,313,202
Fort Worth and Utica Trust Company	15,161
Georgia Loan and Trust Company	79,931
Hamilton Loan and Trust Company	270,295
Ingersoll Investment Company	7,312
Inter-State Mortgage Trust Company	1,425
Iowa Loan and Trust Company	4,232,728
McKinley-Lanning Loan and Trust Company	970,287
Middlesex Banking Company	7,171,214
Nebraska Loan and Trust Company	2,022,079
New England Loan and Trust Company	4,109,350
North American Loan and Trust Company	1,438,641
Northwestern Guaranty Loan Company	2,259,093
Northwestern Mortgage Trust Company	39,948
Omaha Loan and Trust Company	992,805
Security Loan and Trust Company	1,289,420
Security Trust Company	515,930
Superior and Duluth Loan and Debenture Company	478,284
Texas Loan Agency	1,233,351
Waddell (R. J.) Investment Company	1,077,236
Watkins (J. B.) Land Mortgage Company	4,396,134
Add for cents	
Total	$50,683,858

and Liabilities in Detail.

2. Loans secured by second liens on real estate.	3. Earned commission on debenture loans.	4. Loans on collateral security.	5. Loans on personal security.	6. Tax sale certificates.	7. Stocks and bonds.	8. Office building.
$41,264	....	$595	....	$113	....	....
55,352	* $68,078	44,024	....	8,870	....	....
52,845	....	101,346	$141,837	....	$776,998	....
13,361	....	1,975	264	1,143	....	....
21,309	....	....	10,159	6,708	13,473	....
7,433	....	6,252	....	20,459	1,350	....
21,283	....	1,138	1,894	9,512	78,376	....
343.317	....	194,802	28,129	30,448	3,051,125	....
10,958	345,188	348,808	684	13,019	492,495	....
....	....	10,738	23,166	....	1,700	....
....	....	....	6,428	180	....	....
16,047	....	....	....	11,843	110,000	....
....	....	1,970	2.569	....	111,926	....
11,704	....	....	42,839	956	....	....
....	....	41,925	11,694	19,077	65,000	$135,000
154,505	25,040	....	....	5,791	80,000	....
3,553	....	....	2,500	....	47,530	18,434
173,214	....	3,256	2,465	14,754	5,043	35,000
7,227	....	13,061	465	15,146	15,025	....
75,241	55,492	....	....	12,558	15,250	....
....	....	391,619	....	....	1,154,435	....
10,893	....	10,567	....	6,305	2,000	....
74,969	....	64,050	17,577	8,516	129,300	....
29,221	....	45 050	....	2,279	55,226	....
....	....	14,386	262,500	....	49,000	....
....	....	189,800	30,000	....	....	....
7,081	38,500	....	....	....	105,700	9,200
40,882	3,000	....	3,698	1,194	....	....
110,789	178,308	....	10,644	....	....	100,993
....	....	....	....	....	....	....
$1,282,448	$713,606	$1,485,362	$599,512	$188,871	$6,360,952	$298,627

* Earned commission on *all* loans.

COMPARATIVE STATEMENT OF ASSETS

NAMES OF COMPANIES.	9. Other real estate.
Belcher (W. C.) Land Mortgage Company	$27,815
Bunnell and Eno Investment Company	40,437
Chamberlin Investment Company	905,483
Colorado Loan and Mortgage Company	1,636
Colorado Securities Company	23,702
Darrow Investment Company	3,893
Des Moines Loan and Trust Company	64,785
Equitable Mortgage Company	184,502
Fidelity Loan and Trust Company	9,700
Fort Worth and Utica Trust Company	1,239
Georgia Loan and Trust Company	11,732
Hamilton Loan and Trust Company	159,878
Ingersoll Investment Company	173,865
Inter-State Mortgage Trust Company	21,577
Iowa Loan and Trust Company	152,403
McKinley-Lanning Loan and Trust Company	79,974
Middlesex Banking Company	8,183
Nebraska Loan and Trust Company	154,288
New England Loan and Trust Company	255,197
North American Loan and Trust Company	....
Northwestern Guaranty Loan Company	14,543
Northwestern Mortgage Trust Company	17,970
Omaha Loan and Trust Company	83,992
Security Loan and Trust Company	4,728
Security Trust Company	29,558
Superior and Duluth Loan and Debenture Company	....
Texas Loan Agency	223,137
Waddell (R. J.) Investment Company	10,000
Watkins (J. B.) Land Mortgage Company	2,082,619
Add for cents	....
Total	$4,746,836

AND LIABILITIES IN DETAIL — (*Continued*).

10. Foreclosure account.	11. Premiums paid.	12. Furniture and fixtures.	13. Current expenses.	14. Past due interest remitted for but not paid to us.	15. Past due loans remitted for but not paid to us.
....	$13,000	$948	$12,307	$4,168	$8,800
$4,670	....	2,306	2,920	13,303	7,326
....	....	7,585	50,776	....	....
....	....	513	....	2,252	....
....	....	2,171	....	21,154	....
....	....	....	338	....	....
432	....	1,095	....	20,109	....
....	102,008	....	55,741	116,932	685,497
3,449	....	2,500	....	34,874	....
155	....	932	....	....	....
2,958	....	....	4,358	41,185	....
1,611	2,020	....	....	55,122	20,250
....	....	2,000	....	192	....
1,558	9,000	1,367	7,916	759	....
80,416	....	....	....	....	....
43,949	....	2,013	3,632	74,139	....
....	....	....	....	7,475	34,939
74,535	....	5,158	....	82,389	....
20,194	....	6,862	....	27,711	19,938
1,591	....	4,065	25,320	48,753	23,173
1,442	....	457	....	31,309	5,575
875	....	462	4,262	....	....
63,365	1,925	5,000	25	24,089	39,100
223	....	1,359	....	1,818	1,100
....	....	....	....	3,078	8,865
4,100	6,850	275	5,558	....	....
....	....	1,356	....	24,583	....
....	....	1,250	....	2,964	....
10,229	....	4,418	....	117,663	126,300
....	....	....	....	....	....
$315,752	$134,803	$54,092	$173,153	$756,021	$980,863

COMPARATIVE STATEMENT OF ASSETS

NAMES OF COMPANIES.	16. Due from branch offices and agents.
Belcher (W. C.) Land Mortgage Company	....
Bunnell and Eno Investment Company	$2,466
Chamberlin Investment Company	25,799
Colorado Loan and Mortgage Company	....
Colorado Securities Company	17,294
Darrow Investment Company	....
Des Moines Loan and Trust Company	....
Equitable Mortgage Company	704,499
Fidelity Loan and Trust Company	464
Fort Worth and Utica Trust Company	....
Georgia Loan and Trust Company	....
Hamilton Loan and Trust Company	....
Ingersoll Investment Company	6,460
Inter-State Mortgage Trust Company	20,490
Iowa Loan and Trust Company	....
McKinley-Lanning Loan and Trust Company	23,039
Middlesex Banking Company	21,450
Nebraska Loan and Trust Company	....
New England Loan and Trust Company	7,665
North American Loan and Trust Company	....
Northwestern Guaranty Loan Company	36,174
Northwestern Mortgage Trust Company	8,294
Omaha Loan and Trust Company	....
Security Loan and Trust Company	....
Security Trust Company	5,994
Superior and Duluth Loan and Debenture Company	....
Texas Loan Agency	....
Waddell (R. J.) Investment Company	....
Watkins (J. B.) Land Mortgage Company	....
Add for cents	....
Total	$880,088

AND LIABILITIES IN DETAIL — (*Continued*).

17. Due from sundry persons.	18. Due from banks and bankers.	19. Due on uncompleted loans.	20. Cash.	21. Other assets.	Total assets.
$2,034	$25,164	....	....	$8,698	$409,960
21,165	5,171	....	$207	73,724	1,007,341
272,593	24,475	....	390	....	2,729,324
2,858	4,564	....	1,276	....	42,836
15,666	6,836	$1,013	288	....	226,516
1,600	....	....	6,442	....	64,116
5,515	10,579	195	210	33,854	302,506
....	592,455	....	34,734	....	18,433,075
822	54,567	....	17,835	131,812	5,780,385
100	2,317	....	2,504	....	58,016
....	37,959	12,447	2,312	477	199,972
6,982	12,189	....	120	14,759	681,119
6,638	....	81	3,550	8,630	325,199
3,372	2,768	....	323	6,709	132,770
1,185	99,498	....	4,020	89,750	4,932,700
6,364	19,199	....	....	163,349	1,651,286
....	209,696	....	1,254	222,038	7,748,271
....	....	....	36,915	80,614	2,689,716
....	....	....	76,010	369,048	4,942,905
6,166	91,915	....	....	104,788	1,902,959
28,969	196,391	....	2,932	91	4,123,035
242	17,145	1,406	....	67,853	188,228
4,335	1,046	2,566	....	263	1,512,926
46	44,156	....	1,528	9,837	1,485,999
....	43,095	....	9,576	5,115	947,101
73	11,878	....	15	231,799	958,634
22,527	121,889	....	325	706,682	2,554,333
263	47,118	....	3,460	3,010	1,194,081
2,130	86,127	....	691	6,433	7,233,483
....	....	....	....	161	13
$411,645	$1,768,197	$17,708	$206,917	$2,399,494	$74,458,805

COMPARATIVE STATEMENT OF ASSETS AND

NAMES OF COMPANIES.	1. Capital stock paid in.	2. Surplus fund.
Belcher (W. C.) Land Mortgage Company	$53,000	....
Bunnell and Eno Investment Company	352,000	....
Chamberlin Investment Company	1,473,979	368,484
Colorado Loan and Mortgage Company	30,000	....
Colorado Securities Company	70,000	736
Darrow Investment Company	20,000	....
Des Moines Loan and Trust Company	236,050	....
Equitable Mortgage Company	2,100,000	900,000
Fidelity Loan and Trust Company	486,300	90,000
Fort Worth and Utica Trust Company	54,702	....
Georgia Loan and Trust Company	121,300	....
Hamilton Loan and Trust Company	359,600	25,000
Ingersoll Investment Company	147,600	73,800
Inter-State Mortgage Trust Company	100,000	2,427
Iowa Loan and Trust Company	500,000	100,000
McKinley-Lanning Loan and Trust Company	500,000	11,314
Middlesex Banking Company	600,000	100,000
Nebraska Loan and Trust Company	500,000	....
New England Loan and Trust Company	760,000	....
North American Loan and Trust Company	538,190	80,000
Northwestern Guaranty Loan Company	1,250,000	150,000
Northwestern Mortgage Trust Company	100,000	5,197
Omaha Loan and Trust Company	400,000	50,000
Security Loan and Trust Company	182,835	29,940
Security Trust Company	200,000	....
Superior and Duluth Loan and Debenture Company	467,480	16,000
Texas Loan Agency	300,000	100,000
Waddell (R. J.) Investment Company	100,000	20,000
Watkins (J. B.) Land Mortgage Company	750,000	596,065
Add for cents	....	....
Total	$12,753,036	$2,718,963

Liabilities in Detail — (*Continued*).

3. Guaranty fund.	4. Undivided profits.	5. Premiums.	6. Bills payable.	7. Debenture bonds outstanding.	8. Dividends unpaid.	9. Interest paid in advance by borrowers.	10. Loans paid but not remitted for.
....	$57,906	....	$22,800	$207,914	....	$4,020	$1,350
....	7,735	....	8,550	398,500	....	....	....
....	32,065	....	627,756	....	$3,259	....	....
$6,000	4,334	....	....	....	600	....	....
....	26,765	....	38,000	....	801	....	....
....	2,962	....	19,254	....	....	3,468	....
....	14,701	....	5,000	39,690	....	74	6,050
52,018	108,379	....	676,705	13,073,326	....	19,596	527,872
....	62,017	....	448,125	3,905,664	14,589	18,679	16,690
....	238	....	....	....	1,915	....	....
....	10,323	....	15,000	....	....	13,295	6,041
....	10,731	....	....	254,914	....	2,317	12,055
....	3,925	....	85,135	....	50	....	....
....	9,334	....	....	....	15	1,260	3,750
....	165,085	....	....	3,883,200	20,000	....	....
50,084	32,647	....	....	884,220	....	....	27,600
....	66,444	....	....	6,708,149	....	....	21,475
136,468	23,519	....	....	1,965,300	....	8,843	....
....	123,748	....	....	3,605,668	....	25,782	....
....	74,842	....	....	1,178,389	....	3,710	6,047
....	41,556	....	....	2,063,738	50,000	2,179	43,442
....	6,543	....	20,500	30,575	....	12	....
....	47,932	....	1,925	760,500	....	8,332	11,605
4,870	15,794	....	....	1,077,053	....	1,929	8,375
....	20,117	....	....	199.800	8,000	....	39,218
....	24,816	....	....	155,000	....	....	....
....	9,972	....	....	1,906,143	....	4,419	400
....	2,889	....	....	1,015,127	....	6,323	....
....	....	....	85,000	4,088,975	....	....	5,700
....	....	....	....	....	....	....	....
$249,440	$1,007,319	....	$2,053,750	$47,401,845	$99,229	$124,238	$737,670

COMPARATIVE STATEMENT OF ASSETS

NAMES OF COMPANIES.	11. Due borrowers on loans made.	12. Trust savings deposits.
Belcher (W. C.) Land Mortgage Company		
Bunnell and Eno Investment Company	$19,854	
Chamberlin Investment Company		
Colorado Loan and Mortgage Company	1,168	
Colorado Securities Company	32,218	
Darrow Investment Company		
Des Moines Loan and Trust Company		
Equitable Mortgage Company	93,740	
Fidelity Loan and Trust Company	128,838	
Fort Worth and Utica Trust Company		
Georgia Loan and Trust Company	3,673	
Hamilton Loan and Trust Company	9,081	
Ingersoll Investment Company		
Inter-State Mortgage Trust Company	9,483	
Iowa Loan and Trust Company		
McKinley-Lanning Loan and Trust Company		
Middlesex Banking Company		
Nebraska Loan and Trust Company		
New England Loan and Trust Company	3,037	
North American Loan and Trust Company	11,113	
Northwestern Guaranty Loan Company		
Northwestern Mortgage Trust Company		
Omaha Loan and Trust Company		
Security Loan and Trust Company		
Security Trust Company		
Superior and Duluth Loan and Debenture Company		
Texas Loan Agency	3,562	
Waddell (R. J.) Investment Company		
Watkins (J. B.) Land Mortgage Company		$2,990
Add for cents		
Total	$315,767	$2,990

AND LIABILITIES IN DETAIL — (*Continued*).

13. Certificates of deposits bearing interest.	14. Deposits awaiting investment.	15. Other deposits.	16. Due to branch offices and agents.	17. Due to banks and bankers.	18. Other liabilities.	Total liabilities.
$35.465	$8,833	$1,808	$8,096	....	$8,766	$409,960
....	....	18,987	389	$26,332	174,991	1,007,341
2.085	....	....	....	....	221,694	2.729.324
100	303	....	....	....	330	42.836
....	29,235	12.837	10,780	....	5,142	226.516
....	16,600	1,831	....	....	....	64,116
325	....	....	25	....	591	302,506
569,303	28,704	....	283,429	....	....	18,433,075
234.356	....	36,980	6,988	8,084	323,071	5,780,385
700	....	460	....	....	....	58,016
24,138	....	1,182	1,988	3,028	....	199.972
....	....	....	....	....	7,418	681.119
....	11,231	....	....	....	3,458	325,199
....	....	1,705	79	....	4,713	132,770
229.755	....	15,463	....	....	19,195	4,932,700
....	72,973	9,635	....	....	62,810	1.651,286
3,200	45.075	....	20,770	55,000	128.156	7,748,271
....	25.386	9.400	....	....	20,800	2.689,716
68.905	114.351	19,085	....	195,000	27,325	4,942,905
....	....	2,469	6.921	1.274	....	1,902.959
87,512	....	428,141	....	....	6,463	4,123.035
25,000	401	....	....	....	....	188,228
133,980	....	72,524	....	17.902	8,225	1,512,926
31.917	....	22,133	....	....	111.150	1,485,999
229.545	....	236.429	....	....	13.990	947.101
32.480	....	16,337	20.000	....	226.520	958,634
79,088	68,890	47,197	....	....	34.659	2,554,333
25,850	20.204	1,080	....	....	2.605	1,194.081
100.198	562,500	957,190	25,611	....	59,251	7,233,483
....	....	....	....	....	78	13
$1.913.902	$1,004,686	$1,912,873	$385,076	$306.620	$1.471,401	$74,458,805

FINANCIAL CONDITION

OF

Foreign Mortgage Companies as found on Personal Examination Made by Authority of the Superintendent of Banks, During the Year 1892.

W. C. BELCHER LAND MORTGAGE COMPANY.

(Examined May 23, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage liens		$215,617 88
Second mortgage liens	$27,750 65	22,750 65
Due from banks and bankers		22,259 62
Due from patrons		10,441 42
Real estate		27,936 26
Premiums		16,000 00
Overdue coupons		8,440 45
Tax account		113 19
Office furniture and fixtures		798 79
Accrued interest, estimated		8,000 00
		$332,358 26
LIABILITIES.		
Capital	$53,000 00	
Bills payable	12,500 00	
Debentures	174,060 00	
Interest paid in advance	3,905 05	
Debenture coupons	740 00	
Loans paid in advance	4,450 00	
Deposits for investment	38,944 03	
Due to agents	1,126 74	
Debenture interest	3,000 00	
Due to banks	7,754 34	
Due to depositors	1,725 00	
		$301,205 16
Surplus		$31,153 10

BUNNELL AND ENO INVESTMENT COMPANY.

(Examined July 6, 1892.)

ASSETS.	Amount at par.	Allowed.
Mortgage to secure debentures	....	$346,800 00
Due from banks	....	16,540 62
Tax certificates	....	8,792 48
Past due loans	....	12,412 83
Real estate loans	....	201,294 38
Expense	$4,054 11	....
Profit and loss	3,747 41	....
Cash		303 40
Second mortgages	....	61,052 05
Bills receivable	....	95,770 78
Foreclosure account	4,821 10	....
Furniture and fixtures	....	2,306 01
Real estate	....	36,925 44
Interest advanced	....	19,339 75
Due from sundry persons	....	51,187 58
Due from branch offices and agents	....	2,922 06
	....	$855,647 38
LIABILITIES.		
Capital	$367,400 00	
Debentures	315,500 00	
Bills payable	8,550 00	
Notes rediscounted	93,155 78	
Due to sundry persons	83,664 22	$868,270 00
Deficit	....	$12,622 62

CHAMBERLIN INVESTMENT COMPANY.

(Examined June 20, 1892.)

ASSETS.	Amount at par.	Allowed.
Bills receivable	$493,874 26	$437,874 26
Stocks and bonds	637,548 18	517,548 18
Real estate	941,489 21	841,489 21
Furniture and fixtures		7,584 27
Interest	39,172 50	
Commissions	24,879 75	
Expense	65,307 58	
Due from banks		12,133 69
Due from sundry individuals and corporations	419,393 47	339,393 47
Cash on hand		865 21
		$2,156 888 29
LIABILITIES.		
Capital stock (common)	$1,000,000 00	
Capital stock (preferred)	319,796 97	
Bills payable	356,289 66	
Assumed mortgages	185,342 94	
Stock in trust	46,784 33	
Due to sundry persons	229,665 79	
Certificates of deposit	7,635 00	
		$2,145,514 69
Surplus		$11,373 60

COLORADO LOAN AND MORTGAGE COMPANY.

(Examined June 29, 1892.)

ASSETS.	Amount at par.	Allowed.
Bills receivable		$2,959 75
Due from banks		13,900 27
Cash on hand		1,241 89
Dividend account	$5,018 80	
Commissions and expenses		513 67
Furniture and fixtures		2,087 17
Interest advanced for borrowers		2,445 55
Due from sundry persons		12,947 00
First mortgage notes		196 95
Tax certificates		262 60
Real estate		1,263 00
Second mortgage notes		14,993 43
Commission notes		
		$53,411 28
LIABILITIES.		
Capital	$30,000 00	
Funds awaiting investment	9,100 00	
Due to sundry persons	3,171 70	
		$42,271 70
Surplus		$11,139 58

COLORADO SECURITIES COMPANY.

(Examined June 20, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage loans		$50,287 26
Second mortgage loans	$17,996 74	14,996 74
Bills receivable	22,057 96	18,657 96
Tax certificates		4,781 24
Stocks and bonds	13,473 14	7,573 14
Real estate	16,476 40	11,976 40
Furniture and fixtures		2,115 97
Expense account	7,217 83	
Interest past due account	19,028 12	16,528 12
Due from branch offices and agents		14,460 30
Due from sundry persons		15,409 25
Due from banks		861 24
Cash on hand		322 75
		$157,970 37
LIABILITIES.		
Capital	$70,000 00	
Bills payable	24,600 00	
Dividends unpaid	801 14	
Loan account	300 00	
Due to borrowers	20,872 72	
Deposits for investments	14,107 13	
Other deposits	7,568 16	
Due branch offices and agents	13,334 05	
Due to banks	143 20	
Due to sundry persons	6,754 12	
Estimated losses on outstanding guaranteed paper	15,000 00	
		$173,480 52
Deficit		$15,510 15

DARROW INVESTMENT COMPANY.

(Examined June 9, 1892.)

ASSETS.	Amount at par.	Allowed.
Stocks and bonds	....	$270 00
Due from banks	....	4,902 77
Bills receivable	....	2,030 00
Second mortgage notes	$10,704 56	8,704 56
First mortgage notes	....	17,186 00
Sundry accounts	....	68 73
Tax certificates	....	17,546 73
Real estate	....	3,006 56
F. M. Widener, trustee	....	3,000 00
Due from lenders	....	3,240 23
	....	$59,955 58
LIABILITIES.		
Capital	$20,000 00	
Bills payable	4,754 47	
Interest coupons	1,414 46	
Loan certificate	55 00	
Due to investors	33,801 76	$59,525 69
Surplus	....	$429 89

DES MOINES LOAN AND TRUST COMPANY.

(Examined September 27, 1892.)

ASSETS.	Amount at par.	Allowed.
Bonds and mortgages on hand and with attorneys	$24,717 39	....
Bonds and mortgages with Chicago trustees	25,425 00	$50,142 39
Securities, commission notes, etc., with home trustees	27,741 64	24,668 00
Bills receivable	12,830 71	10,264 57
Tax certificates	....	8,379 70
Coupons	26,965 15	24,268 64
Real estate	....	52,451 01
Cash on hand and in bank	....	6,039 82
Unsold debenture bonds	....	8,750 00
Insurance, foreclosure, recording, etc	....	534 56
Office furniture and fixtures	....	1,095 92
Sheriffs' certificates	....	3,146 02
Bonds	....	78,376 00
Due on preferred stock subscriptions	....	9,338 34
Judgment	....	10 65
Team, harness and buggy	170 00	....
Taxes remitted	....	223 00
Sundry personal accounts	4,630 58	3,965 33
Accrued interest on assets (estimated)	15,891 00	10,000 00
	....	$291,653 95

LIABILITIES.		
Capital stock (preferred)	$106,550 00	
Capital stock (common)	129,500 00	
Debentures outstanding	25,150 00	
Trust bonds	15,840 00	
Bills payable	7,000 00	
Certificates of deposit	325 00	

DES MOINES LOAN AND TRUST COMPANY — (*Continued*).

ASSETS.	Amount at par.	Allowed.
Loans paid, but not remitted for	3,100 00	
Overdraft in bank	96 72	
Due borrowers on uncompleted loans	756 55	
Sundry personal accounts	1,584 27	
Accrued interest on liabilities (estimated)	190 00	290,092 54
Surplus		$1,561 41

EQUITABLE MORTGAGE COMPANY.

(Examined September 21, 1802.)

ASSETS.	Amount at par.	Allowed.
First loans on hand and with branch offices and agents (ledger account)	....	*$11,725,988 05
Second mortgages bearing interest, and commission notes	$347,706 59	312,706 59
Real estate (ledger account)	194,153 68	169,153 68
Debentures on hand	....	206,200 00
Stocks and bds. on hand and with branch offices and agents, and prem. account (ledger acct).	....	*2,849,167 00
Coupons	130,855 68	115,855 68
Branch offices	....	*186,032 64
Tax sale certificates	....	27,052 91
Bills receivable	54,604 53	32,273 53
Collection account	340,682 04	306,682 04
Corporation balances and overdrafts (ledger account)	....	196,504 91
Furniture and fixtures	....	1,689 51
Sundries (individual and corporation accounts, etc.)	444,809 52	363,624 52
Cash balances	....	547,083 14
	....	$17,040,014 20
LIABILITIES.		
Capital	$2,100,000 00	
Subscriptions to old stock	8,380 00	
Debentures and bonds	12,620,777 60	
Partial payments and investments accounts	78,100 45	
Certificate of deposit	508,064 03	
Bills payable	336,705 30	
General interest account, net	30,562 25	
Releases	423,429 71	
Branch offices	*312,333 18	
Guaranty fund (deposits for security)	49,678 01	16,468,030 53
Surplus	....	$571,983 67

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* Ledger account at book values.

FIDELITY LOAN AND TRUST COMPANY.

(Examined May 31, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage loans on hand		$352,462 27
First mortgage loans with American trustees		2,461,350 00
First mortgage loans with foreign trustees and agents		1,065,750 00
		$3,879,562 27
Less mortgages paid		22,847 50
		$3,856,714 77
Commission mortgages	$275,948 74	248,353 87
Bills and contracts receivable		314,325 48
Corporation accounts receivable (overdrafts)	56,345 73	43,331 87
Stocks and bonds, book value	331,490 00	301,490 00
Past due interest	36,950 01	33,255 01
Tax certificates		14,121 48
Foreclosure (costs)		2,345 89
Real estate		10,157 01
Due from banks and bankers		56,357 81
Cash		40,465 02
Debentures on hand		500 00
Furniture and fixtures		2,500 00
		$4,923,918 21

LIABILITIES.	
Capital stock	$486,300 00
Debentures outstanding, currency	2,459,500 00
Debentures outstanding, at $4.84 to £	956,635 18
Due banks and bankers	129,229 11
Bills payable	202,500 00

Commission mortgage notes, sold	177,500 00	
Bills receivable rediscounted	255,000 00	
Due mortgagors on incomplete loans	103,375 15	
Due agents	3,765 97	
Certificates of deposit	101,570 00	
General deposits	13,693 97	
Interest paid in advance by borrowers	12,067 45	
		$4,901,136 83
Surplus		$22,781 38

FORT WORTH AND UTICA TRUST COMPANY.

(Examined July 20, 1892.)

ASSETS.	Amount at par.	Allowed.
Loans secured by first liens on real estate		$19,795 16
Loans on collateral security (schedule C)		17,466 45
Loans on personal security		8,557 32
Stocks and bonds		1,700 00
Real estate		550 41
Furniture and fixtures		929 30
Current expenses		791 94
Due from sundry persons		172 14
Due from banks and bankers		4,044 95
Cash		534 00
Taxes and costs		175 30
Organization expenses		1,038 33
		$55,755 30
LIABILITIES.		
Capital stock paid in	$52,110 00	
Undivided profits	995 30	
Certificates of deposit bearing interest	400 00	
Other deposits	850 00	
Due to banks and bankers	1,400 00	
Total		$55,755 30

GEORGIA LOAN AND TRUST COMPANY.

(Examined May 15, 1892.)

ASSETS.	Amount at par.	Allowed.
Real estate	....	$10,964 30
Bills receivable	....	5,953 42
Due from banks	....	41,024 40
First mortgage loans	....	91,542 47
Due from agents	....	15,318 63
Cash on hand	....	286 96
Interest coupons	$33,957 42	31,957 42
	....	$197,047 60
LIABILITIES.		
Capital	$100,000 00	
Bills payable	5,000 00	
Due to sundry persons	27,796,91	
Due to depositors	29,006 40	
Due to lenders	5,320 65	
Interest paid in advance	20,898 29	
		$188,022 25
Surplus	....	$9,025 35

HAMILTON LOAN AND TRUST COMPANY.

(Examined June 30, 1892.)

ASSETS.	Amount at par.	Allowed.
Loans secured by first liens		$263,340 00
Loans secured by second liens	$31,928 04	28,735 24
Stock and premium		112,020 00
Real estate		137,090 67
Tax sale certificates		12,156 66
Past due interest, coupons	54,786 70	49,308 03
Cash on hand and in bank		33,250 99
Accrued interest		6,165 79
Due from banks and bankers		1,593 22
Due from sundry persons		1,680 42
Foreclosure account		1,124 32
Due from branch offices and agents		1,920 23
		$648,385 57
LIABILITIES.		
Capital stock	$359,600 00	
Debenture bonds	230,840 75	
Interest paid in advance	3,044 19	
Loans paid, but not remitted for	1,200 00	
Due borrowers on loans made	15,593 60	
Deposits	2,426 50	
Due to agents	8 38	
Debenture coupons due, but unpresented	1,789 00	
Interest paid to apply on coupon account	7,958 24	
		$622,460 66
Surplus		$25,924 91

INGERSOLL INVESTMENT COMPANY.

(Examined June 22, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage loans		$4,693 33
Loans on collateral security		2,114 87
Commercial paper		967 50
Stocks and bonds	$96,420 60	86,420 60
Real estate	148,864 44	133,864 44
Furniture and fixtures		2,007 50
Expense account	5,642 89	
Interest advanced		150 00
Due from branch offices and agents		7,914 02
Due from sundry persons		9,098 85
Cash on hand (due from banks)		14,675 96
Farm account		2,275 14
Joint and capitalists' accounts		5,628 71
		$269,810 92
LIABILITIES.		
Capital	$117,000 00	
Bills payable	69,742 50	
Dividends unpaid	300 00	
Due to borrowers	553 50	
Due to depositors	14,748 12	
Due to agents	41 64	
Loan account	785 63	
E. D. Ingersoll, good will account	9,296 38	
Due to sundry persons	1,457 77	
		$213,925 54
Surplus		$55,885 38

INTER-STATE MORTGAGE TRUST COMPANY.

(Examined September 30, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgages on hand	....	$1,225 00
Installment notes	$10,453 28	9,407 96
Furniture and fixtures	1,353 61	1,000 00
Premium account, eastern office	5,000 00	....
Premium account, western office	4,000 00	....
Bills receivable	....	41,652 97
Treasury stock (balance of capital unsold)	....	5,500 00
Due from eastern office	....	6,679 42
Tax sale certificates and deeds	....	1,097 94
Foreclosure account	....	2,096 23
Loans paid	....	1,800 00
Coupons, past due interest	....	480 08
Records	220 00	....
Vault	....	380 06
Improvement account	....	81 75
Accrued interest	328 95	....
Grain and seed	....	710 27
Sundry accounts	....	2,956 73
Cash on hand and in bank	....	8,432 12
Real estate	....	20,091 71
	....	$103,592 24

LIABILITIES.	
Capital stock	$100,000 00
Interest paid, but not remitted	1,085 32
Due on loans	1,194 25

Due insurance companies	504 55	
Due agents	27 75	
Due sundry persons	1,491 54	
Paid on loans	5,655 25	109,958 66
Deficit		$6,366 42

IOWA LOAN AND TRUST COMPANY.

(Examined May 31, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage loans	$4,326,776 41	
First mortgage loans in foreclosure	62,155 21	
	$4,388,931 62	
Less outstanding mortgages on company's real estate	77,000 00	$4,311,931 62
Collateral and personal loans		40,297 15
School bonds, municipal warrants, etc		8,354 34
Tax sale certificates		12,938 46
Sheriff sale certificates		26,135 51
Land contracts		28,979 68
Foreclosure account, costs		5,655 26
Office building	$135,000 00	275,272 71
Other real estate	150,272 71	
Interest due and unpaid		33,400 43
Cash		9,215 74
Due from banks		186.173 61
Sundry accounts		1,464 24
		$4,939,818 75
LIABILITIES.		
Capital stock	$500,000 00	
Debentures outstanding	3,922,800 00	
Certificates of deposit	241,359 90	
Treasurer's checks	1,499 49	
Debenture interest, due and unpaid	8,745 75	
Sundry accounts	16,522 63	
		$4,690,927 77
Surplus		$248,890 98

McKINLEY-LANNING LOAN AND TRUST COMPANY.

(Examined June 15, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgages		$886,492 34
Second mortgages (commission notes)	$158,116 23	142,304 61
Second mortgages (guaranty fund)		50,771 99
Debenture bonds, certified, on hand		72,400 00
Tax certificates		3,239 62
Real estate		55,504 20
Foreclosure account		47,764 22
Due from banks		39,023 42
Due from individuals		6,343 37
Due from agents (collections)		17,248 93
Bonds and stocks (McKinley-Lanning capital stock)		80,000 00
Past due interest (coupon account)	115,208 93	103,688 04
Earned commissions		25,040 50
Steel plates, abts., furniture, fixtures, etc		9,513 06
Interest accrued		2,714 50
		$1,542,048 80

LIABILITIES.	
Capital stock	$500,000 00
Debentures, certified	853,545 00
Funds for investment	44,565 00
Funds collected and not remitted	21,574 40
Due individuals	996 03
Guaranty fund	54,772 71
Suspense account	87 00
Payments received for debenture interest	25,314 16

McKINLEY-LANNING LOAN AND TRUST COMPANY — (*Continued*).

LIABILITIES.	Amount at par.	Allowed.
Mortgages on company's real estate	$19,050 00	
Funds awaiting papers	19,356 28	
Due mortgagors on incomplete loans	1,126 86	
Funds awaiting presentation of coupons	3,978 43	$1,544,365 87
Deficit		$2,317 07

MIDDDESEX BANKING COMPANY.

(Examined July 31, 1892.)

ASSETS.	Amount at par.	Allowed.
Real estate morgage notes	....	$5,783,527 70
Union Mutual installment notes	....	5,296 01
Installment notes	$670,885 96	603,797 37
Mortgage note interest, past due, debenture	197,804 29	197,039 77
Mortgage note interest, guaranteed	21,128 78	
Graves & Vinton Co	....	61,412 32
M. E. Vinton, special	....	4,174 89
Bills receivable	....	3,000 00
Stocks and bonds, book account	....	46,501 07
Topographical records	14,000 00	....
Real estate account	....	8,267 28
Banking house and safe deposit	....	16,304 11
Insurance	....	2,273 92
Cash on hand and in banks	101,191 05	101,190 71
Sundry accounts of agents and individuals	....	26,472 67
	....	$6,859,257 82
LIABILITIES.		
Capital stock	$600,000 00	
Stock subscriptions	34,915 00	
Certificates of deposit	2,132 50	
Bills payable	50,000 00	
Office sales and sundry credits	12,463 31	
Debenture coupons (accrued and unpaid)	69,119 32	
Debentures outstanding	6,061,328 46	
Sterling coupons, unpresented	2,330 13	
		$6,832,288 72
Surplus	....	$26,969 10

NEBRASKA LOAN AND TRUST COMPANY.

(Examined June 12, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgages	....	$1,952,310 93
Second commission mortgages (guaranty fund)	$136,468 00	151,721 16
Second commission mortgages	32,111 06	
Real estate, farms	186,218 07	....
Real estate, office buildings	35,000 00	221,218 07
Loans paid in advance	....	2,447 00
Foreclosure account	....	94,576 25
Bills receivable	5,722 56	....
Loan interest coupons, advanced	53,566 55	84,086 13
Debenture interest coupons	38,490 57	
Debenture interest coupons, remitted for	1,371 91	
Accrued interest on debenture securities	....	18,966 87
Furniture and fixtures	....	5,158 15
Tax certificates	....	6,565 56
School bonds, stocks and warrants	....	5,516 05
Due from banks	....	64,097 19
Cash on hand	....	345 28
Local miscellany	....	464 20
Debenture bonds, certified and unsold	....	10,500 00
	....	$2,617,972 84
LIABILITIES.		
Capital stock	$500,000 00	
Debentures outstanding	1,956,750 00	
Trust funds	35,072 30	
Deposits for maturing loans	5,300 00	
Interest paid in advance by borrowers	8,156 79	
Interest	18,059 26	
Debenture loans	1,287 63	
		$2,524,625 98
Surplus	....	$93,346 86

NEW ENGLAND LOAN AND TRUST COMPANY.

(Examined June 30, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgages (debentures)	$3,215,532 00	$3,583,889 65
First mortgages (loan account)	387,840 00	
First mortgages (past due)	20,388 00	
Second mortgages	....	8,477 55
Installment notes	350,925 36	315,832 73
Short term notes	....	15,158 64
Loans on collateral security	....	7,012 41
Loans on personal security	....	1,884 47
Land contracts	....	30,791 74
Tax sale certificates	....	15,158 64
Real estate	....	239,230 71
Stocks and bonds	....	19,718 05
Coupon account (net, less advanced interest)	21,306 76	17,806 76
Branch offices	....	7,563 52
Foreclosure	....	35,803 28
Furniture and fixtures	....	6,862 26
Personal accounts	....	808 38
Cash on hand and deposited	....	68,138 78
	....	$4,374,137 57

LIABILITIES.	
Capital stock	$746,500 00
Debentures outstanding	3,248,853 00
Bills payable	170,000 00
Drafts outstanding	2,597 74
Deposits (time)	92,189 80
Deposits (sight)	35,689 47
Investment (account)	15,573 65

NEW ENGLAND LOAN AND TRUST COMPANY — (*Continued*).

ASSETS.	Amount at par.	Allowed.
Personal accounts	$841 63	
Retained on loans	24,962 53	
Treasurer's checks	13,501 50	
Texas office	8,423 18	
		$4,359,132 50
Surplus		$15,005 07

NORTH AMERICAN LOAN AND TRUST COMPANY.

(Examined July 15, 1892.)

ASSETS.	Amount at par.	Allowed.
Debenture loans secured by first mortgages	$1,154,999 99	$1,129,999 99
Due from banks		14,974 09
Due from sundry persons		55,562 12
Real estate loans on hand		83,062 00
Tax certificates		12,544 60
Coupons	52,527 22	47,527 22
Debentures unsold		5,500 00
Second mortgages	69,379 25	62,379 25
Furniture and fixtures		3,909 87
Past due loans		72,100 17
Earned commissions	50,956 54	43,000 00
Stocks and bonds	15,250 00	5,250 00
Debenture interest		7,065 00
		$1,542,874 31
LIABILITIES.		
Capital	$474,260 00	
Debentures issued	969,407 31	
Due to sundry persons	19,560 47	
Due to borrowers	12,030 07	
Suspense account	52,599 33	
Due to bankers	14,424 46	$1,542,281 64
Surplus		$592 67

NORTHWESTERN GUARANTY LOAN COMPANY.

(Examined July 10, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage loans	$2,114,453 85	$2,114,453 85
Loans on collateral security	326,956 85	326,956 85
Stocks and bonds	1,150,560 00	1,150,560 00
Real estate	14,543 31	14,543 31
Foreclosure expenses	2,396 99	
Furniture and fixtures	427 32	427 32
Insurance	222 38	
Loans remitted for by us, but not paid	3,500 00	3,500 00
Interest remitted for by us, but not paid	29,887 94	29,887 94
Due from branch offices and agents	45,171 50	45,171 50
Acccounts receivable	11,568 84	11,568 84
Due from banks and bankers	474,659 62	474,659 62
Cash on hand	13,221 88	13,221 88
		$4,184,951 11
LIABILITIES.		
Capital	$1,250,000 00	
Unearned profits	40,341 17	
Debentures	2,042,500 00	
Installment bonds	4,715 45	
Interest paid in advance	1,606 41	
Loans paid in advance	122,286 70	
Due depositors	455,356 45	
Certificates of deposit	104,830 23	
Cashier's check	8,293 34	
Due to banks and bankers	3,461 15	
		$4,033,390 90
Surplus		$151,560 21

NORTHWESTERN MORTGAGE TRUST COMPANY.

(Examined July 12, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage notes		$39,785 00
Second mortgage notes	$14,266 80	12,266 80
Due from banks		12,715 76
Bills receivable		9,981 15
Loan on personal security		16,900 62
Furniture and fixtures		462 10
Live stock		13,206 79
Real estate		10,636 20
Interest advanced		3,788 41
Tax certificates		6,279 37
Stocks and bonds		2,000 00
Accrued interest		5,352 31
Mortgages in excess of debentures, series A		2,985 54
Mortgages in excess of debentures, series B		5,902 81
Due from agents		10,722 65
		$152,985 51
LIABILITIES.		
Capital	$100,000 00	
Bills payable	35,500 00	
Certificates of deposit	15,000 00	
Debenture bonds, "A. M. M. L."	985 75	
Due to sundry persons	400 00	
		$151,885 75
Surplus		$1,099 76

OMAHA LOAN AND TRUST COMPANY.

(Examined May 30, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgage loans		$960,650 00
Second mortgage loans	$91,650 04	75,000 00
Loans on personal security		57,773 21
Tax certificates		3,772 67
Stocks and bonds		129,300 00
Furniture and fixtures		5,000 00
Items in process of foreclosure	41,918 15	34,918 15
Past due coupons		23,940 35
Past due loans		53,900 00
Due from banks and bankers		23,516 32
Due from various persons		5,943 27
Due on incomplete loans		5,161 56
Coupons prepaid		3,426 25
Real estate	65,112 32	59,112 32
		$1,441,414 10
LIABILITIES.		
Capital	$400,000 00	
Bills payable	1,445 00	
Debentures	735,000 00	
Coupons prepaid	4,730 20	
Loans prepaid	16,760 15	
Trust funds	130,875 00	
Debenture interest	8,541 50	
Due to sundry persons	72,558 87	
		$1,369,910 72
Surplus		$71,503 38

SECURITY LOAN AND TRUST COMPANY.

(Examined July 3, 1892.)

ASSETS.	Amount at par.	Allowed.
Cash on hand	....	$1,526 71
Due from banks	....	64,844 88
First mortgage loans	....	1,270,280 82
Bills receivable	....	22,069 07
Bonds and warrants	....	6,017 69
Land contracts	....	483 84
Tax certificates	....	1,312 86
Real estate	....	7,897 08
Commission notes	....	26,059 70
Furniture and fixtures	....	1,181 60
Foreclosure account	....	222 71
Interest advanced	....	5,794 48
Due from sundry persons	....	169 47
	....	$1,407,860 91
LIABILITIES.		
Capital	$168,427 68	
Guaranty fund	4,393 47	
Dividend account	40 00	
Debentures	1,082,323 47	
Registered notes	13,624 25	
Debenture interest	15,285 08	
Due depositors	66,843 93	
Funds for investment	1,500 00	
Treasurer's checks	21,487 72	
Due to sundry persons	2,587 65	$1,376,513 25
Surplus	....	$31,347 66

SECURITY TRUST COMPANY.

(Examined August 11, 1892.)

ASSETS.	Amount at par.	Allowed.
Mortgages on hand and with agents	$140,025 00	
Mortgages with debenture trustees	208,865 00	
Mortgages out for collection	29,385 00	$378,275 00
Loans and discount on hand and with agents	$157,557 39	273,804 92
Loans and discount out for collection	121,247 53	
Western office account		42,033 55
Advanced interest		1,697 91
Cash on hand and on deposit		62,505 21
Safe deposit vault		5,000 00
Sundry accounts		1,331 02
		$764,647 61
LIABILITIES.		
Capital stock	$200,000 00	
Debentures outstanding	194,900 00	
Certificates of deposit	100,239 96	
Check deposits	251,506 52	
Interest paid in advance by borrowers	1,437 08	
Treasurer's checks outstanding	4,586 70	
Sundry balances	880 00	$753,550 26
Surplus		$11,097 35

SUPERIOR AND DULUTH LOAN AND DEBENTURE COMPANY.

(Examined July 11, 1892.)

ASSETS.	Amount at par.	Allowed.
Cash on hand		$15 00
Due from banks		137,689 72
First mortgages on real estate		315,175 00
Premiums	$9,892 87	8,000 00
Loans on collateral		41,500 00
Loans sold and guaranteed		183,700 00
Bills receivable		30,000 00
Past due loans		18,583 00
Furniture and fixtures		275 60
Interest advanced		1,819 80
		$736,758 12
LIABILITIES.		
Capital	$400,000 00	
Liable as guarantor	183,700 00	
Debenture certificates	19,990 99	
Debenture bonds	99,500 00	
Due to sundry persons	5,313 91	
		$708,504 90
Surplus		$28,253 22

TEXAS LOAN AGENCY.

(Examined May 19, 1892.)

ASSETS.	Amount at par.	Allowed.
Office lot and building	....	$9,200 00
Other real estate	$223,318 83	200,986 95
Furniture and fixtures	....	1,340 97
Stocks	106,100 00	86,100 00
Loans and notes, on seven per cent basis	....	2,142,631 31
Coupons	22,201 98	20,000 00
Cash in office	....	135 41
Due from company's bankers	....	95,269 59
Sundry accounts	....	20,549 95
Commission notes	54,191 41	42,000 00
	....	$2,618,214 18
LIABILITIES.		
Capital	$300,000 00	
Due on loans assumed	41,923 65	
Due to borrowers	2,198 57	
Deposits for investment	98,292 02	
Certificates of deposit	88,189 88	
Other deposits	31,993 54	
Debenture coupon account	8,548 22	
Interest paid in advance	4,597 43	
Debentures	1,964,569 12	
Bills payable	30,000 00	
		$2,570,312 43
Surplus	....	$47,901 75

R. J. WADDELL INVESTMENT COMPANY.

(Examined May 26, 1892.)

ASSETS.	Amount at par.	Allowed.
First mortgages on hand	$24,065 00	
First mortgages in debenture securities	1,049,340 83	
		$1,073,405 83
Second mortgages and commission notes, at ninety cents	39,570 45	35,613 40
Past due interest (coupons), book account	4,483 00	4,000 00
Tax certificates		1,570 05
Real estate	13,082 28	10,000 00
Sundry note account	6,021 25	5,917 05
Bonds and warrants		6,776 93
Due from sundry persons		2,453 41
Furniture and fixtures	1,875 00	1,200 00
Unsold debentures (with R. J. W.)		4,000 00
Earned commissions	6,000 00	4,000 00
Cash on hand and in bank		27,808 35
		$1,176,745 02
LIABILITIES.		
Capital stock	$100,000 00	
Debentures outstanding	1,014,267 00	
Deposits awaiting investment	15,239 03	
Deposits (time)	20,350 00	
Deposits (other)	8,453 62	
Advanced interest	3,940 07	
Due to sundry persons	368 18	
		$1,162,617 90
Surplus		$14,127 12

J. B. WATKINS FARM MORTGAGE COMPANY.

(Examined May 25, 1892.)

ASSETS.	Amount at par.	Allowed.
London office	....	$32,437 65
Bank of Commerce, N. Y	....	7,873 07
Watkins National Bank, Lawrence	....	632 44
Lake Charles office	....	63,223 86
Interest coupons	$140,085 21	115,000 00
Commission, collection and exchange	6,671 35	....
Commission mortgages	152,965 71	115,000 00
Bills receivable	....	13,643 95
Debenture coupons	191,636 50	160,000 00
Vendors' liens	....	666,104 32
Investment account	3,723,930 81	3,603,930 81
Farm account	1,834,635 14	1,589,635 14
Real estate	100,313 13	50,000 00
Foreclosure account	4,200 00	....
Court costs	11,657 40	....
Taxes	4,552 27	....
Suspense	190,300 00	146,709 67
Debenture interest	21,822 91	21,822 91
Salaries and expenses	19,501 50	....
Sinking fund, warrants, etc	....	3,993 62
Live stock and movable property	1,715 30	1,715 30
Office furniture and fixtures	....	4,442 30
Personal accounts	....	2,231 50
	....	$6,598,396 54
LIABILITIES.		
Capital	$750,000 00	
Loan account	379,737 61	
Due to sundry persons	100,737 24	

Debentures	4,232,472 49	
Bills payable	892,350 00	
J. B. Watkins account	169,658 53	
Barclay & Co	73,000 00	
		$6,597,955 87
Surplus		$440 67

GLOSSARY.

Many of these terms may be self-explanatory, and all will be easily understood by persons familiar with financial bookkeepers' phraseology; but as many of the investors with mortgage companies are not financial men, and as some of the terms as used in the reports and examinations have a local signification, it is thought advisable to include these definitions in this appendix.

"Accrued Interest."—Interest computed to the time of taking the balance on interest-bearing assets or obligations, at the rate specified, but not yet due.

"Appraised Value."—The value given to any property, real or personal, by persons selected to estimate its value, or "appraise it."

"Bills Payable."—Notes, with or without collateral security, given for money borrowed.

"Bills Receivable."—Notes, with or without collateral security, taken for money loaned, or for a debt.

"Bonds."—Written obligation under seal.

"Brokerage."—Fees or commissions allowed a broker or sales agent.

"Capital Stock."—Is that money or property contributed by stockholders to the corporation and becomes the corporate fund of the corporation. A share of capital stock is the right to partake of its surplus earnings, and in dissolution to share in its surplus property after its debts are paid. "Authorized capital" stock is the amount of capital the corporation or company is allowed by its charter to have. "Subscribed capital" stock is the amount of capital stock agreed to be taken by stockholders subscribed for. "Paid-in capital" stock is the amount of money actually paid in by the stockholders.

"Cash."—Usually means money on hand, as distinguished from money in banks, but sometimes includes both.

"Certified Bonds."—Obligations issued under the seal of the corporation or company.

"Certificate of Deposit."—An acknowledgment of the receipt of a certain sum of money and a promise to pay back the same on presentation of the certificate, with or without notice, and with or without interest, according to its terms.

"Certificate of Indebtedness."— A declaration that the corporation or company issuing it is indebted to the person to whom issued for the amount stated, with or without interest.

"Commission Notes," "or Mortgages."— Are notes given to the company for the accommodation of the loan, and in payment for obtaining it by the borrower. They may or may not be secured in the first mortgage, and may or may not bear interest. Usually they are liens subsequent to the principal mortgage and payable in installments without interest.

"Current Expenses." — Amount paid for running the business of the company not charged into profit and loss. This amount is usually charged into the profit and loss account at frequent intervals.

"Debentures." — "A writing acknowledging a debt." "An unsecured bond." As used in the reports, debenture bonds are bonds issued in series of $100,000 usually, the payment of which is secured by the deposit of some person or corporation in trust of certain securities, which securities the trustees are empowered to sell and use the proceeds to pay the debenture according to its terms in case the company issuing it fails to do so.

"Deficit." — The excess of liabilities over assets.

"Deposits Awaiting Investment." — Money left with the company to invest, and for the use of which until invested a stipulated rate of interest is usually given.

"Discounts." — Notes or other promises to pay purchased by, or for which the company has advanced, less than their matured value.

"Dividends Unpaid." — Dividends declared but not yet actually paid out to the stockholders.

"Due Borrowers on Loans Made."— In some companies the money loaned is paid to the borrower as improvements progress in installments. Where a loan is made on the site of a building and a building to be erected, for example, the money is paid to the borrower only as the erection of the building progresses, and when such a loan is carried in first liens at its face value, the balance to be paid to the borrower is carried as due borrowers on loans made.

"Due from Banks and Bankers." — Deposits in banks and with bankers to the credit of the company.

"Due From Branch Offices and Agents." — Difference between securities sent and remittances made and paid to the credit of the company.

"Due from Sundry Persons." — Miscellaneous credits from individuals.

"Due on Uncompleted Loans." — The advances made to borrowers to procure abstract of title, or pay off incumbrance, etc., before the execution of the mortgage.

"Due to Banks and Bankers." — Should represent the aggregate amount of money balances due by the company to banks and bankers. In some companies it is used to include borrowed money, which ought properly to be carried as bills payable.

"DUE TO BRANCH OFFICE AND AGENTS."—Difference between securities sent and received and remittances made and paid. Business balances.

"EARNED COMMISSIONS."—The present worth of the aggregate difference between the interest paid by borrowers on mortgage securities deposited in trust to secure the payment of the debentures, and the rate paid by the debentures.

"FORECLOSURE ACCOUNT."—This account varies in the companies. Sometimes it is costs of foreclosure only, sometimes it includes tax certificates, commission mortgage, past due interest, and, occasionally, in addition to all these, the principal mortgage. Some companies, as soon as a foreclosure action is begun, charge the amount of that mortgage out of mortgage account and into foreclosure account. Some have no foreclosure account, but carry the mortgage foreclosed in mortgage account until they actually receive the deed on foreclosure, at the expiration of the period of redemption, and charge the amount direct from mortgage account on obtaining a deed into real estate account. In the various ways in which loans being foreclosed are carried in the different companies can be read quite clearly whether the company is trying to conceal its real condition as to foreclosures or not.

"FURNITURE AND FIXTURES."—In some cases this represents the total cost of the furnishing of the office, together with stationery, plates, records, etc. In others a part is charged off to profit and loss each year.

"GUARANTY FUND."—In most cases this is a part of the surplus set aside voluntarily by the company and theoretically devoted to the payment of the obligations of the company, not to be used until such obligations are all extinguished; but practically it may be changed and used in dividends or otherwise, as the board of directors elect. In some cases it is an actual liability carried against some doubtful asset, and, in rarer cases, a specific amount of money is deposited with a trustee to be kept by him until all of the company's obligations are extinguished, and in one case it is money deposited with the company to guarantee its bonds and stock purchased. But even this could probably be changed by proper resolution of the board of directors. Practically it is to be treated as part of the surplus except in the cases where it may be carried as an offset for a doubtful asset. Occasionally it represents the amount of discount from face value of commission notes.

"INSTALLMENT NOTES."—Commission notes, payable in installments, without interest.

"INSURANCE ACCOUNT."—Amount paid out for insuring property. An expense, but as, in case of change of title or otherwise, it might be rebated, it is usually allowed the same as taxes or costs in foreclosure.

"INTEREST PAID IN ADVANCE BY BORROWER."—Just what it appears to be; interest paid before due.

"Land Contracts."—Usually contracts taken by the company from a purchaser of their real estate, and carried in this account until, according to their terms, the time comes for the delivery of the deed.

"Land Notes."—Notes given for the purchase money of real estate sold by the company.

"Loans Paid but not Remitted for."—In this account is carried the money paid by borrowers in whole or partial payment of their mortgages until such time as the money is remitted to the owner of the mortgage. The delay may be occasioned by failure to get proper execution of release and other papers, etc.

"Loans on Personal Security."—Loans on unsecured promissory notes.

"Loans on Collateral Security."—Loans on promissory notes secured by the deposit of collateral.

"Loans Secured by First Liens on Real Estate."—First mortgages, land notes, vendors' liens.

"Loans Secured by Second Liens on Real Estate."—Second mortgages, taken as additional security or for commissions, and may be with or without interest before maturity.

"Office Building."—Defines itself. Sometimes it is carried at its estimated market value and sometimes at cost, which may be more or less than the market value.

"Other Assets." "Other Deposits." "Other Liabilities."—Assets, deposits or liabilities accounts carried by the company, but not particularly enumerated on the blank.

"Other Real Estate."—Real estate acquired either by foreclosure, purchase or voluntary deeding, other than the office building.

"Past-due Interest Remitted for but not Paid to Us."—It is a quite general custom of mortgage companies to advance money to meet maturing interest payments on the mortgages negotiated by them, whether guaranteed or unguaranted. For that purpose it is necessary for them to have on deposit at the place in the east where the coupons are made payable money sufficient to meet such obligations, before they themselves receive interest from the mortgagor, the coupons being forwarded to the company to be kept until paid by the mortgagor (or charged into foreclosure or real estate account on foreclosure) and are carried in assets as advanced, or past-due interest.

"Past-due Loans Remitted for but not Paid to Us."—In the case of guaranteed loans the company has to pay the principal of the mortgage when due, even though the mortgagor may have defaulted. In such cases they are subrogated to the rights of the eastern purchaser, either because of their having paid the money or by formal assignment, the mortgages being forwarded and kept by the company until taken up by the mortgagor, or charged into foreclosure account sheet as past-due loans remitted for.

"PREMIUMS."— As a liability represents amount commission notes are discounted. For example, if company carried commission notes at eighty-five per cent they carry them in assets at their face value, and carry fifteen per cent of this face value as premium, or guaranty fund.

"PREMIUMS PAID."— Another item that appears in the statements of some of the companies is "premiums paid" or "premium account." This represents the good-will account of some firm or corporation or business that the mortgage company has succeeded. For instance, in several cases the present corporation is an outgrowth of the business of a firm or individual engaged in loaning money. When the corporation was organized, that business was turned over to the corporation, and the firm or individual received as a consideration therefor a certain amount of the capital stock of the company, and the amount so paid is carried on the books of the company as a premium account. Sometimes it represents amount actually paid above par for stocks and bonds purchased.

"REDISCOUNTS."— Discounted discounts. That is, notes sold to another company or bank, which have first been discounted by the company reporting. But few of the mortgaged companies carry this account.

"SHEEP NOTES."— Property note taken for sheep sold, which note is the same as a chattel mortgage on the sheep and increase, until paid. Held by Dakota companies only.

"STOCKS AND BONDS."— Defines itself, except that occasionally some of the companies carry in this account any shares of its own capital stock on hand.

"SURPLUS."— Excess of assets over liabilities.

"TAX SALE CERTIFICATES."— Generally represents the payment of taxes where the mortgagor fails to pay, and the company, obtaining information of that fact, pay the taxes themselves and take a certificate of payment in order to preserve their lien intact, but sometimes they are purchased as an investment because of the high rates of interest they bear, being, in some States, two per cent a month.

"TOPOGRAPHICAL RECORDS." "ABSTRACTS OF TITLE."— This account, when carried, includes the books of record, abstracts of title, etc., obtained by the company in the course of its business. Where a company has been in business for a long time, these records show them the topography and character of the land upon which they receive applications for loans, and enable the officers to verify the estimated valuation of their appraisers in the field. They are of value to the company, and would be of value to another company intending to loan in the same fields, but would have no more than a nominal value at forced sale to other than mortgage companies.

"TRUST SAVINGS FUNDS."— Deposits in trust, sometimes bearing interest and sometimes not.

"UNCERTIFIED DEBENTURES."—Unsecured coupon bonds, issued by the company, in form of debenture, but having no deposit in trust to secure their payment.

"UNDIVIDED PROFITS."—Profits not yet charged into another account. The balance of this account, after paying current expenses and dividends, is usually charged into surplus account.

"VENDORS' LIENS."—Purchase money notes. Notes given for the purchase money of real estate, a first lien; usually the vendor waives homestead rights when necessary.

"WARRANTS."—Evidence of debt issued by municipalities for improvements, payable on the collection of taxes assessed against the property improved.

PARTS OF THE BANKING LAW APPLICABLE

(CHAPTER 689, LAWS OF 1892),

AND

COPIES OF FORMS USED.

THE BANKING LAW.

An Act in relation to banking corporations.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Chapter XXXVII of the General Laws.

Section 1. **Short title.**— This chapter shall be known as the banking law, and shall be applicable to all corporations and individuals specified in the next section.

* * *

§ 2. The term, mortgage, loan or investment corporation, when so used, means any corporation other than an insurance corporation formed under the laws of this state, or of any other state, and doing business in this state for the purpose of selling, offering for sale, or negotiating bonds or notes secured by deed of trust or mortgages on real property or choses in action, owned, issued, negotiated or guaranteed by it, or for the purpose of receiving any money or property, either from its own members or from other persons, and entering into any contract, engagement or undertaking with them for the withdrawal of such money or property at any time with any increase thereof, or for the payment to them or to any person of any sum of money at any time, either fixed or uncertain; and when applied to any foreign corporation doing business in this state shall include any association, copartnership, joint-stock company, individuals or firms organized or existing under the laws of any other state or country, and engaged within this state in any such business.

§ 3. **The banking department; superintendent.**—There shall continue to be a banking department charged with the execution of the laws relating to the corporations and individuals to which this chapter is applicable. The chief officer of such department shall continue to be the superintendent thereof, to be known as the superintendent of banks.

* * *

§ 7. **Expenses; how defrayed.**—All the expenses incurred in and about the conduct of the business of the department, including the salary of the superintendent and clerks, shall be charged to and paid by the corporations and individuals required to report to the superintendent under the provisions of this chapter in such proportions as the superintendent shall deem just and reasonable.

The expenses incurred and services performed on account of any such corporation or individual except savings banks shall be charged to and paid by the corporation or individual for whom they were incurred or performed. If any corporation or individual shall not, after due notice, pay any such charges, the superintendent may apply the proceeds of the sale of or the dividends on any stock or the interest on any bonds and mortgages in his hands deposited by such corporation or individual to the payment of such charges, with interest at the rate of six per cent.

The moneys so applied, and all moneys received by him in payment of such charges, shall be deposited and paid by him into the treasury of the State, to reimburse all sums advanced from the treasury for such expenses, except moneys received from any corporation or individual banker for expenses incurred or services performed on account of any such corporation or individual, which moneys shall be applied by the superintendent in payment of such expenses and a verified account thereof included in his annual report.

If any such corporation or individual shall fail to pay such charges as herein required, and there are no stocks, bonds or mortgages in the department, the dividends or interest on which can be applied in payment thereof, the superintendent shall report to the attorney-general the failure of any such corporation or individual to pay such charges, and the attorney-general shall thereupon bring an action in the name of the people for the recovery of such charges, and the same when collected shall be paid into the treasury.

§ 8. **Powers of superintendent.**—Every corporation and individual banker specified in section two of this chapter shall be subject to the inspection and supervision of the superintendent of banks. He shall, either personally or by some competent person or persons to be appointed by him, to be known as examiners, visit and examine every such corporation and individual banker at least once in each year. On every such examination inquiry shall be made as to the condition and resources of the corporation, the mode of conducting and managing its affairs, the action of its directors, the investment of its funds, the safety and prudence of its management, the security afforded to those by whom its engagements are held, and whether the requirements of its charter and of law have been complied with in the administration of its affairs; and as to such other matters as the superintendent may prescribe.

He shall have power in like manner to examine every corporation and individual banker specified in section two whenever in his judgment its condition and management is such as to render an examination of its affairs necessary and expedient.

The superintendent and every such examiner shall have power to administer an oath to any person whose testimony may be required on any such examination, and to compel the appearance and attendance of any such person for the purpose of any such examination.

If the examination shall be made by the superintendent, or by one or more of the regular clerks in the department, no charge shall be made except for necessary traveling and other actual expenses.

The result of such examination of a savings bank shall be certified by the examiners, or one of them, upon the records of the corporation examined.

* * *

§ 16. **Publication of report of examiners.** — Whenever the superintendent shall deem it proper, a copy of any report made by any examiner shall be published in the state paper and in at least one daily newspaper in the city of New York, and in one newspaper published in the county where the principal place of business of such corporation or individual is located.

* * *

§ 20. **Reports.** — Every corporation and individual banker subject to the provisions of this chapter shall make a written report to the superintendent of banks, in such form and containing such matters as he shall prescribe. * * * If a * * * mortgage, loan or investment corporation, such report shall be made annually on or before February first in each year and shall contain a statement of its condition on the first day of January preceding. The superintendent may, for good cause shown, extend the time for making any such report not exceeding thirty days.

Every such report shall be verified by the oath of the president and cashier of such corporation or by such individual banker, to the effect that the same is true and correct in all respects. * * *

§ 21. **Penalties for failure to report.** — If any bank or individual banker shall fail to make such report * * * or if any savings bank or trust company shall fail to make such report * * *

Every other corporation subject to the provisions of this chapter which shall fail to make such report within the time herein required, or to include therein any matter required by the superintendent to be stated shall forfeit to the people the sum of ten dollars for every day for which such report shall be delayed or withheld, and for every day that any such omitted matter may remain unreported.

The moneys forfeited by this section, when recovered, shall be paid into the state treasury to be used to defray the miscellaneous expenses of the department.

* * *

§ 23. **Annual report of superintendent.**— The superintendent shall report annually to the legislature, at the commencement of its first session.

1. A summary of the state and condition of every corporation and individual banker required to report to him and from which reports have been received the preceding year, at the several dates to which such reports refer, with an abstract of the whole amount of capital returned by them, the whole amount of their debts and liabilities, specifying particularly the amount of circulating notes outstanding, if any, and the total amount of means and resources, specifying the amount of specie held by them at the times of their several returns, and such other information in relation to such corporations and bankers as, in his judgment, may be useful. Such corporations shall be divided into classes so as to correspond with the designations thereof in section two of this chapter. * * *

Such report may be divided into parts and the part or parts containing the reports of corporations other than banks may be made on or before the first day of March in each year.

§ 32. **Permission and certificate of superintendent in case of foreign corporations.**— No foreign corporation incorporated for the purpose of carrying on the business specified in articles five, six and seven of this chapter shall transact business in this state without the written permission of the superintendent of banks and a written certificate from him stating that such corporation has complied with all of the provisions of this chapter applicable to it and with all the requirements of law, and that it is authorized to transact the business within this state specified therein and that such business may be safely intrusted to it. Such permission and certificate shall continue in force only for the period of one year from the date thereof, but may be renewed by the superintendent from time to time for a like period if satisfied that the corporation has complied with all of the provisions of this chapter and with the requirements of law and that such business can be safely intrusted to it. * * *

ARTICLE VII.

Mortgage, Loan and Investment Corporations.

Section 200. License.
201. Verified statement to be furnished.
202. Issue of license.
203. Unlicensed companies prohibited.
204. Revocation of license.
205. Designation of superintendent as attorney.

§ 200. **License.**— The superintendent of banks shall issue a license under his hand and official seal in accordance with the provisions of this article, authorizing mortgage companies organized under the laws of any other state to transact business within the limits of this state; and the supervisory power granted by this article shall apply to all associations, copartnerships, individuals, joint-stock companies, firms or corporations organized under the laws of any other state, who sell, offer for sale, or negotiate bonds or notes secured by deed of trust or mortgage of real property, or choses in action, owned, issued, negotiated or guaranteed by them; and to all associations, copartnerships, joint stock companies or corporations organized under the laws of this state, who shall sell or offer for sale or negotiate bonds or notes secured by deed of trust or mortgage of real property situated outside of this state, owned, issued or negotiated or guaranteed by them.

§ 201. **Verified statement to be furnished.**— The companies, associations and others described in the preceding section shall annually make and furnish to the superintendent of banks a true and verified statement of their financial condition in detail on blanks furnished by him for that purpose, which shall show:

1. The amount of capital actually paid in, in cash.

2. The amount of capital subscribed.

3. The undivided profits or earnings on hand.

4. The total liabilities itemized in such form as may be indicated in the blanks.

5. The total amount of moneys loaned, invested or guaranteed.

6. The number and amount of all mortgages in arrears of interest for a period exceeding six months prior to the date of the report.

7. The number and amount of mortgages foreclosed during the past year.

8. The present cash value of all real property held or owned by foreclosure; and such other or further information concerning their business affairs and methods as the superintendent shall require.

The statement shall be signed by the officers of the association, company or corporation or other person making the same, and in such form as the superintendent shall prescribe. The superintendent may, in his discretion, require a like report either wholly or in part, as to such particulars as he may prescribe, to be made and submitted to him at any time and within such period as he may designate. No license shall be issued unless the superintendent, either personally or by some competent person or persons appointed by him has visited and examined thoroughly into the condition, business methods and affairs generally of any company, association, corporation, copartnership or individual proposed to be licensed by him; and he may make such an examination as often thereafter as he deems necessary, and such examination shall be made at least once in each year.

The superintendent and every examiner appointed by him shall have power to administer an oath to any person whose testimony may be required in any such examination; and all books and papers which it may be deemed necessary to examine by the superintendent or the examiner, shall be produced, when demanded, in writing by him.

On every such examination inquiry shall be made as to the condition and resources generally of the company, corporation, association, copartnership or individual examined, the mode of conducting and managing its affairs, the advice of its directors or trustees, the investment of its funds, the safety and prudence of its management, the security afforded to those by whom its engagements are held, and whether the requirements of its charter and of law have been complied with in the administration of its affairs.

§ 202. **Issue of license.**—If it shall appear to the satisfaction of the superintendent from such examination made and the statement or report submitted by any such corporation, company, copartnership, firm, association or individual, pursuant to the requirements of the preceding section, that its affairs are being conducted in a safe and lawful manner, he may issue to such company, corporation, copartnership, firm or association, a license, under his hand and seal, permitting it to transact business in this state for the term of one year from the date thereof.

§ 203. **Unlicensed companies prohibited.**—No person, association, corporation, company or copartnership, shall, after the passage of this chapter, act in this state as the agent or representative of any company, corporation, or others described in section 200 of this chapter, unless the same has been duly licensed by the superintendent of banks as hereinbefore provided. Every such company, corporation, or others, described in section 200 of this chapter, shall within thirty days after being authorized to transact business in this state, file in the office of the superintendent of banks a certificate stating the name and business address of every person, association, corporation, company, firm or others, who act or propose to act in this state as its agent or representative, and in case of any change in any such representative, an amended certificate shall be forthwith filed as herein provided.

Whoever shall offend against the provisions of this section shall forfeit to the people of the state the sum of one thousand dollars for every offense.

§ 204. **Revocation of license.**—If it shall appear to the superintendent from an examination made of or report submitted by any licensee under the provisions of this article, or from sufficient information otherwise obtained, that such licensee is conducting its business and affairs in an unsafe or unauthorized manner, he shall, by an order under his hand and official seal addressed to such licensee, direct it to discontinue such unsafe or illegal practices and to conform to the requirements of its charter and of law, and to provide for the safety and security of its transactions. If such licensee shall neglect or refuse to make any report as herein specified, or to comply with such order, or if it shall appear to the superintendent that it is unsafe or inexpedient for any such licensee to continue the transaction of business, he shall forthwith revoke the license granted to any such licensee and serve a copy of the order of the revocation on the company, association, corporation, co-partnership or individual whose license is revoked at its principal office for the transaction of business in this state, and also upon each agent or representative thereof within the state specified in the certificate provided for in section two hundred and three of this chapter, by depositing the same in the post-office directed to such licensee at such principal place of business and to each of such agents at his place of business; and the superintendent may, in his discretion, publish such order, with such other facts as he may deem proper, for six successive days in the state paper published in the city of Albany.

§ 205 **Designation of superintendent as attorney.**—Every corporation, company, firm, association or individual thus licensed shall before transacting any business within this state, by an instrument in writing duly executed, appoint the superintendent of banks, its true and lawful attorney upon whom all process in any action or proceeding by any resident of the state against it may be served with the same effect as if it were a domestic corporation and had been lawfully served with process in the state. A certificate of such appointment duly certified and authenticated shall be filed in the office of the superintendent of banks, and copies certified by him or his deputy shall be sufficient evidence thereof. Service in favor of a resident of this state upon such attorney shall be deemed a personal service upon such licensee. Whenever lawful process against such licensee shall be served upon the superintendent of banks, he shall forthwith forward a copy of the process served upon him by mail, prepaid, and directed to the president or secretary of the corporation or association at its last named post-office address.

For each copy of process, the superintendent shall collect the sum of two dollars, which shall be paid by the plaintiff or moving party at the time of such service to be recovered by him as part of his taxable disbursements if he succeeds in his suit or proceeding. The term process, when used in this section, includes any writ, summons, petition or order whereby any suit, action or proceeding shall be commenced by a resident of this state.

Penal Code.

§ 593. **Acting for foreign corporation not authorized to do business in this state.**— Any person or corporation who acts as agent or representative of any mortgage company or co-operative loan and building association organized outside of this state, while such mortgage company or co-operative loan and building association shall not be authorized under a license of the superintendent of banks to do business in this state, is guilty of a misdemeanor.

BLANKS USED.

APPLICATION BLANK.

To the Superintendent of Banks, Albany, N. Y.:

STATE OF.........................., }
COUNTY OF .... }

The .... by .... its .... hereby certifies, that said company is now doing, and intends doing, business in the State of New York, and desires to continue doing business in said State under and pursuant to the provisions of chapter 689 of the Laws of 1892, of said State, and is ready to make the report, and submit to the examination, called for in said act.

Dated ...., 189

....

[L. S.] by..............................

ANNUAL REPORT.

To the Superintendent of Banks of the State of New York:

Report of the condition of “ . . . . ,” *located*
at . . . . , *county of* . . . . , *State of* . . . . ,
on the morning of January 1, 189 .

ASSETS.	January 1, 189 .
1. Loans secured by first liens on real estate	
2. Loans secured by second liens on real estate	
3. Earned commission on debenture loans	
4. Loans on collateral security (schedule “C”)	
5. Loans on personal security	
6. Tax sale certificates	
7. Stocks and bonds (see schedule “A”)	
8. Office building	
9. Other real estate	
10. Foreclosure account	
11. Premiums paid	
12. Furniture and fixtures	
13. Current expenses	
14. Past-due interest remitted for, but not paid to us	
15. Past-due loans remitted for, but not paid to us	
16. Due from branch offices and agents	
17. Due from sundry persons	
18. Due from banks and bankers	
19. Due on uncompleted loans	
20. Cash	
21. Other assets, viz	
Total	
LIABILITIES.	
1. Capital stock paid in	
2. Surplus fund	
3. Guaranty fund	
4. Undivided profits	
5. Premiums	
6. Bills payable	
7. Debenture bonds outstanding (schedule “B”)	
8. Dividends unpaid	
9. Interest paid in advance by borrowers	
10. Loans paid, but not remitted for	
11. Due borrowers on loans made	
12. Trust savings deposits	
13. Certificates of deposit bearing interest	
14. Deposits awaiting investment	
15. Other deposits	
16. Due to branch offices and agents	
17. Due to banks and bankers	
18. Other liabilities, viz	
Total	

SCHEDULE "C."

LOANS ON COLLATERAL SECURITIES.

State amount of each loan and value of collateral.

Number of loan.	DATE OF LOAN.	Estimated value of collateral.	Amount loaned thereon.	At what rate of interest.

When organized? Under what State laws?

Principal place of business?

Authorized amount of capital? $ Amount of capital subscribed? $

What is the personal liability of stockholders? $

How much of its capital stock is owned by the officers of the company? $

How much, if any, of the stock owned by its officers is pledged to the company as collateral?

Amount of loans due from directors? $

Total amount of its capital stock held by the company as collateral?

Rates of dividends for past five years?

Names and residences of officers and directors (see outside fold).

Do you cause a personal examination of offered security to be made by salaried employés of the company who are entirely free from local influences before money is advanced to borrower?

State the sections of country in which loans are made, giving the principal counties?

State the number and amount of mortgages with interest six months or more in arrears?

Total amount loaned to date? $

Total amount of loans paid? $

Number and amount of loans extended the past two years?

Total amount of loans unpaid and outstanding? { Guaranteed, $
Unguaranteed, $

Do you advance interest on unguaranteed loans?

How much have you so advanced?

Number and amount of mortgages foreclosed in the past year? $

Total amount in process of foreclosure? $

Is the company subject to examination by local State officers?

What officer?

Amount of securities sold in New York State for the past year? $

What are the "other deposits" mentioned in the statements?

Total amount of debentures certified? $

Less amount on hand and with agents? $

Total liability for debenture bonds as per statement? $

What do you estimate will be lost to the company on outstanding guaranteed mortgages and debenture securities?

Trustees for debentures (if more than one class, state series certified to by each)?

SCHEDULE "B."

STATEMENT OF DEBENTURE BONDS CERTIFIED TO BY TRUSTEES.

SERIES.	Rate per cent.	YEAR WHEN			SECURED BY PLEDGE OF			AMOUNT OF	
		Dated.	Due.	Redeemable.	First mortgage loans.	Second mortgage loans.	Real estate.	Security.	Debentures.
Total					....	....	....	....	....

STATE OF .... } ss. :
COUNTY OF .... }

I, ... of the aforesaid company, do solemnly swear that the foregoing report and statements are true to the best of my knowledge and belief.

....

Subscribed and sworn to before me, this .... day of .... 189. .

....

....

....

What features of a company ought chiefly to be considered in determining whether its business is conducted safely?

....

....

....

How best can the examiner find out the true condition of a company?

....

....

....

REPORT

OF THE

....

....

....

NAMES OF OFFICERS AND DIRECTORS:

....

....

....

....

....

....

....

Received.......................189..

SCHEDULE "A."

DESCRIPTION OF STOCKS AND BONDS.

DESCRIPTION.	Cost.	Par value.	Market value.

Form for Reporting List of Agents.

........................189

I, ..., of the ....
.... hereby certify that the following and attached statement contains the name and business address of every person, association, corporation, company, firm or others who act or propose to act as the agent or representative of said..........
.... in the State of New York.

[L. s.] ....

....

NAME.	Business address.

POWER OF ATTORNEY.

Know all Men by these Presents,

That the...

....of the

........of...................., in the State of.................,
having applied to be licensed by the Superintendent of Banks of the State of New York, to do business in the State of New York, as provided by chapter 689 of the Laws of 1892, and other statutes of said State applicable thereto, does hereby make, constitute and appoint the said Superintendent of Banks of said State, his successor or successors in office, its true and lawful attorney in and for the State of New York, upon whom all lawful process in any action or proceeding by any resident of said State of New York against said

....

may be served, with the same effect as if said.......................

....

existed in said State of New York and had been lawfully served with said process therein, as provided by said chapter 689, of the Laws of 1892 of said State. And the said Superintendent of Banks as such attorney, is hereby duly authorized and empowered, as the agent of the said.............. ....

....

to receive and accept service of any process, writ, summons, petition or order whereby any suit, action or proceeding shall be commenced by a resident of said State of New York against said.................

....

as provided in said chapter 689, Laws of 1892.

In witness whereof, the said..............................
in accordance with the resolution of its board of directors, a copy of which is hereto attached, has hereunto affixed its corporate seal and caused these presents to be subscribed and attested by its president and secretary at the.........
of..................., in the State of..................,
on the............ day of.............., A. D., 189 .

[L. S.]

....

President.

....

Secretary.

STATE OF.................., } ss.:
COUNTY OF............... }

On this..........day of.......... ...., 189 , before me the subscriber, a..................................duly appointed to take the proof and acknowledgment of deeds and other instruments, came........................and .... respectively president and secretary of the ...., to me known, and known to be the individuals described in and who executed the foregoing power of attorney, and each duly acknowledged the execution of the same, and being by me duly sworn, each for himself deposeth and saith, that ....is the president, and ....is the secretary of the said ...., and that the seal affixed to said instrument is its corporate seal, and that they, the said president and secretary, were duly authorized to affix it thereto.

In testimony whereof, I have hereunto set my hand and affixed [L. S.] my official seal at the city of........................... the day and year first above written.

....

....

CERTIFIED COPY OF A RESOLUTION OF THE BOARD OF DIRECTORS OF THE

....

....

At a meeting of the board of directors of the.................... ....held on the ....day of ....A. D. 189 , at which a quorum of said board was present, the following resolution was duly passed:

"*Resolved*, That having applied for authority to transact business in the State of New York, in conformity with its said laws, the........ ....does hereby authorize and direct its president and secretary, under its corporate seal, to make, constitute and appoint the Superintendent of Banks of the State of New York, his successor or successors in office, the true and lawful attorney of said ....,

in and for the State of New York, on whom all process of law, writ summons, petition or order, may be served, in any action or proceeding by any resident of said State of New York, against said..........
...............................in the State of New York, subject to and in accordance with chapter 689, Laws of 1892, of said State, and other statutes applicable thereto, and to duly authorize and empower the said Superintendent of Banks of the State of New York as such attorney, to receive and accept service of such process as the agent of the said.............. ....
.... such service to be deemed valid personal service upon said ...."

I hereby certify that the above is a correct copy of the resolution duly passed of the directors of the..................
..........................authorizing the appointment
[L. S.] of the Superintendent of Banks of the State of New York, the true and lawful attorney of said ....
...................in said State.

....

Secretary.

LICENSE OR PERMIT.

BANKING DEPARTMENT — STATE OF NEW YORK.

It appearing, from the certificate of incorporation heretofore duly approved and filed in this department, that the.....................
.... has complied with the provisions of chapter 689 of the Laws of 1892, and with all the requirements of law;

Now, therefore, I, Charles M. Preston, Superintendent of Banks of the State of New York, by virtue of the power vested in me as said superintendent by chapter 689 of the Laws of 1892, do hereby authorize the said ....
to transact within this State the business specified in its certificate of incorporation, and certify that such business may be safely intrusted to it as appears from said certificate.

In witness whereof, I have hereunto set my hand and caused [L. S.] the official seal of the banking department to be affixed, at Albany, this ...... day of........ 189 .

....

Superintendent.

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